

Semi-Annual Environmental Monitoring Report

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NEP: Kathmandu Valley Wastewater Management Project

Prepared by the Project Implementation Directorate (PID), Kathmandu Upatyaka Khanepani Limited (KUKL), Ministry of Water Supply and Sanitation, Government of Nepal for the Asian Development Bank. This document is made publicly available in accordance with ADB's Public Communication Policy (2011) and does not necessarily reflect the views of ADB.

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Kathmandu Upatyaka Khanepani Limited
Project Implementation Directorate
Anamnagar, Kathmandu

**Kathmandu Valley Wastewater
Management Project**
(ADB Loan No. 3000-NEP, SF)

**BIANNUAL SAFEGUARD
REPORT**

For 2nd Half, 2017 (July – December)

**Environmental Safeguards
Volume 2 of 2**

January, 2018

ABBREVIATIONS

ADB	–	Asian Development Bank
AP	–	affected persons
CASSC	–	Community Awareness and Safeguard Support Consultant
CBO	–	Community Based Organizations
CBS	–	Central Bureau of Statistics
CDC	–	Compensation Determination Committee
CDO	–	Chief District Officer
CFC	–	Compensation Fixation Committee
CPR	–	Community Property Resource
DSC	–	Design and Supervision Consultants
DUDBC	–	Department of Urban Development and Building Construction
EA	–	Executing Agency
GON	–	Government of Nepal
GRC	–	Grievance Redress Committee
HPCIDBC	–	High-Powered Committee for Integrated Development of the Bagmati Civilization
IA	–	Implementing Agency
IP	–	Indigenous People
IR	–	Involuntary Resettlement
IS	–	Interceptor Sewers
KUKL	–	Kathmandu Upatyaka Khanepani Limited
KVWMP	–	Kathmandu Valley Wastewater Management Project
LA	–	Land Acquisition
LA Act	–	Land Acquisition Act
MoWSS	–	Ministry of Water Supply and Sanitation
NGO	–	Non-Government Organizations
PCO	–	Project Coordination Office
PD	–	Project Director
PID	–	Project Implementation Directorate
PIU	–	Project Implementation Unit
PLI	–	Poverty Level Income
PM	–	Project Manager
PPTA	–	Project Preparatory Technical Assistance
PSA	–	Poverty and Social Assessment
ROR	–	Right of River
RP/IPP	–	Resettlement Plan
R&R	–	Resettlement and Rehabilitation
sq.m	–	square meter
TA	–	Technical Assistance
ToR	–	Terms of Reference
WWTP	–	Waste Water Treatment Plant

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Executive Summary

The Kathmandu Valley Wastewater Management Project (KVVWMP) (ADB Loan No. 3000-NEP) supports the ongoing efforts of the Government of Nepal towards improving the wastewater services in Kathmandu Valley. The major objective of the project is to manage waste water of the Kathmandu valley.

The project is considered Category B as per the SPS 2009 as no significant impacts are envisioned. This Initial Environmental Examination (IEE) is to assess the environmental impacts and provides mitigation and monitoring measures to ensure no significant impacts as a result of the project.

The KVVWMP involves (i) rehabilitation and expansion of sewerage network including property connections; (ii) rehabilitation and construction of interceptors along the streams and rivers; (iii) rehabilitation of sewage pumping station; (iv) modernization and expansion of wastewater treatment plants to 90.5 MLD capacity; (v) energy generation of approximately 910 kW through sludge digestion and/ or gasification; and (vi) supporting operational and financial improvements and capacity building. The expected outcome of the project will be an improved wastewater collection and treatment system and increased access of wastewater services to the residents of Kathmandu Valley including poor women and men.

Environmental Safeguard condition of the implemented wastewater treatment plant and interceptor sewer projects are partially satisfactory. The physical progress of all the projects are remarkably lower than the expected achievement. Safety is one of the major aspect with the construction of proposed sub-projects; however, no any severe or fatal accident occurred in implemented TP and IS sub-projects. The contractors especially of IS sub-projects shall improve safety arrangements enhancing installation of signage and information boards, first aid box to make available in each ongoing construction of Interceptor Sewer (IS) sites.

Similarly, no any remarkable impacts upon the surroundings due to noise generated from the construction and excavation work. Further, no any significant impact upon air and surrounding water with the construction activities carried during this biannual. Till date contractor at WWTP-01 has removed 51 number of trees requiring compensatory replantation.

1. Introduction

1.1 Background

The Kathmandu Valley Wastewater Management Project (ADB Loan No. 3000-NEP) supports the ongoing efforts of the Government of Nepal towards improving the wastewater services in Kathmandu Valley. The project will invest in rehabilitation and construction of new wastewater treatment plants, expansion of sewerage network, and improvement of wastewater management in Kathmandu Valley, which also complement past and ongoing Asian Development Bank (ADB) projects.¹ The project is expected to increase operational efficiency, enhance service delivery, and improve health and quality of life of the inhabitants of Kathmandu Valley. The expected outcome of the project will be improved access to efficient and reliable delivery of wastewater services to the residents of Kathmandu Valley, including the poor. Safeguard policy are the policies that require to “avoid, minimize or mitigate adverse environmental and social impacts” that may result from development projects. The safeguard policies adopt “do no harm” approach. Development projects that change patterns of use of land, water and other natural resources can cause a range of resettlement effects.

This is the consolidated report on implementation of Environmental and Social Safeguard Activities carried out between July to December, 2017 and is prepared in compliance with the ADB Policies. The report comprises activities performed under Waste Water Treatment Plant (WWTP) package TP-01 and TP-02 and Interceptor Sewer packages IS-01, IS-02 and IS-03.

1.2 Objectives

The major objective of the project is to manage waste water of the Kathmandu valley; whereas the specific objectives are as follows;

- i. rehabilitating and expanding the sewerage networks;
- ii. modernizing, expanding, and constructing wastewater treatment plants (WWTPs); and
- iii. supporting operational and financial improvements and capacity building.

Kathmandu Valley is characterized by high population growth (estimated to be 6.6% per annum) and high population density (estimated at more than 2,500 persons per km²). The total population of Kathmandu Valley (Kathmandu, Lalitpur and Bhaktapur Districts) was estimated at 2.51 million in 2011 (CBS, census 2011) and will reach 3.26 million by 2021. The existing wastewater network has not been maintained or expanded to serve the spreading urban areas and increased population. This has resulted in untreated sewage being discharged directly into local watercourses. The rivers have become open sewers presenting severe public health risks, in particular to the urban poor. Moreover, poor access to sanitation facilities, an improper solid waste management system, and groundwater and surface water pollution from untreated domestic sewage have caused increased disease,

¹Melamchi Water Supply Project (ADB 1820-NEP); Kathmandu Valley Water Supply Improvement Project (ADB 2776-NEP); Bagmati River Basin Improvement Project (ADB PPTA-43448).

health risks, and associated economic burdens disproportionately impacting the poor and vulnerable.

1.3 Environmental category

The project is considered Category B as per the SPS 2009 as no significant impacts are envisioned. This Initial Environmental Examination (IEE) is to assess the environmental impacts and provides mitigation and monitoring measures to ensure no significant impacts as a result of the project.

Similarly, the requirement for environmental assessment in Nepal is established by the National Environment Protection Act, 1997 and Environmental Protection Rules, 1997. The procedures are defined in the Environment Protection Rules, as amended. These rules require IEE for sewerage projects costing more than NRs. 50 lakhs.

Nepal's procedures for environmental assessment of development projects are described in the Environment Protection Act (1997) and the Environment Protection Rules (1997), as amended). Projects that need EIA and IEE are identified in the rules. Accordingly, the responsibility for undertaking an IEE for this proposed project lies with the Kathmandu Upatyaka Khanepani Limited (KUKL/Project Implementation Directorate (PID) as the project proponent, on behalf of the Kathmandu Valley Water Supply Management Board (KVWSMB). Public involvement, including notification of stakeholders, dissemination of information, and consultation, is a requirement, particularly during the review and approval of the IEE report.

The process for carrying out the IEE in Nepal is as follows:

- (i) The responsibility for undertaking and getting an IEE approved lies with KUKL/PID as the proponent for the Ministry of Water Supply and Sanitation (MoWSS) (the Executing Agency).
- (ii) The environmental assessments are carried out by consultants hired by KUKL/PID. (IEEs are approved by the respective ministries. All EIAs are approved by the Ministry of Population and Environment [MoPE]).
- (iii) Public involvement, including notification of stakeholders, dissemination of information, and consultation is a requirement, particularly during the review and approval of the IEE report.
- (iv) KUKL/PID prepares the terms of reference (TOR) as described in Schedule 3 of the Environment Protection Rules and submits it to MoWSS.
- (v) MoWSS reviews the TOR and returns it with comments and suggestions for improvement, where necessary.
- (vi) If the TOR is found satisfactory, MoWSS will approve it and will inform the consultant through KUKL/PID.
- (vii) KUKL/PID will arrange for the study to be conducted by a consultant as soon as the TOR is approved by MoWSS.
- (viii) The IEE report will be prepared in the format as described in Schedule 5 of the Environment Protection Rules and in accordance with the ADB environmental guidelines.
- (ix) Rule 7 stipulates that a notice has to be published in Nepali in a national daily newspaper and provided to the concerned Municipality, District

Coordination Committee (DCC) office, schools, concerned individuals and institutions, hospitals, and health offices. The latter shall be requested to give written comments and suggestions within 15 days regarding the likely impacts on the environment of the proposed project. A deed of public enquiry also needs to be prepared and included in the IEE report.

- (x) The IEE report should be submitted to MoWSS through KUKL/PID. KUKL/PID will review the report and then forward it to MoWSS for decision making. Both KUKL/PID and MoWSS can send the document back to the consultant for revision, if required. When approved, MoWSS will inform the municipal authorities through KUKL/PID.

As required by the Environment Protection Act and its rules, KUKL/PID should implement the proposed project only after the approval of the IEE report.

1.4 Scope of activities and overview of project information

1.4.1 Scope

The KVWWMP involves (i) rehabilitation and expansion of sewerage network including property connections; (ii) rehabilitation and construction of interceptors along the streams and rivers; (iii) rehabilitation of sewage pumping station; (iv) modernization and expansion of wastewater treatment plants to 90.5 MLD capacity; (v) energy generation of approximately 910 kW through sludge digestion and/ or gasification; and (vi) supporting operational and financial improvements and capacity building. The expected outcome of the project will be an improved wastewater collection and treatment system and increased access of wastewater services to the residents of Kathmandu Valley including poor women and men.

1.4.2 Implementation arrangements

The Ministry of Water Supply and Sanitation (MoWSS) will be the executing agency responsible for overall strategic planning, guidance, and management of the project, and for ensuring compliance with loan covenants. Kathmandu Upatyaka Khanepani Limited (KUKL) will be the implementing agency, and the existing Project Implementation Directorate (PID) in KUKL will be responsible for (i) project planning, implementation, monitoring, and supervision; (ii) reporting to KUKL Board of Directors, MoWSS, and ADB; and (iii) coordination of all activities in the project. PID has already established a safeguards unit staffed with environmental, social, and legal specialists. The PID, KUKL will recruit two consulting firms, design, supervision and management consultant (DSC) and community awareness and safeguard supporting consultant (CASSC) firm. The DSC will have an environmental and social safeguard specialist to facilitate PID in implementation and supervision of safeguards-related works.

1.4.3 Description of the environment

The project is located in Kathmandu Valley which is densely populated. The project sites are located along the river banks within the 10 to 20 meters of right of river (RoRs) has declared by the HPCIDBC and government-owned land. There are no protected areas, wetlands, mangroves, or estuaries in or near the subproject location. Trees, vegetation are those which are commonly found along the river bank areas; however, the construction and excavation will avoid affecting vegetation as far as possible. Most of the land along the river

has been used as cultivation whereas encroachers with some structures are also existed along the river banks. Traditionally river banks have also been utilizing as cultural sites, thus there are some temples, cremation sites along the river banks. Impact upon such locations have been avoided in design diverting the overlaying of interceptors through such locations. Traffic management will be necessary during the rehabilitation and construction of sewer pipes on busy roads.

1.5 Project safeguards team

The project safeguard team supporting for the L-3000 is presented in the following table.

Table 1-1: Project safeguard support team

Sn.	Name	Designation/Office	Email Address	Roles
	1. PID			
1.	Divakar P. Dhakal	Deputy Project Director	divakardhakal@gmail.com	Supervise implemented projects and review of project documents
	2. DSC-04			
1.	Rikesh Chitrakar	Environment Safeguard Specialist	chitrakar.rikesh@gmail.com	Monitoring and supervision of environmental safeguard works of TP and IS projects of L-3000
2.	Gauri Sharma	Social Safeguard Specialist	gpsharma19@gmail.com	Monitoring and supervision of social safeguard works of TP and IS projects of L-3000
	3. Consultants (CASSC)			
1.	Anita Jnawali	Team Leader, CASSC	anitajnawali2010@gmail.com	Overall coordination between the stakeholders, engineers, and client.
2.	Sita Ram Kandel	Environment Safeguard Specialist	sramkandel@gmail.com	Generation of awareness at community level and supervision of the sub-projects implemented by PID.
3.	Rajendra Pandit	Social Safeguard Specialist	rajankpandit@gmail.com	Generation of awareness at community level and supervision of the sub-projects implemented by PID.

1.6 Overall project and sub-project progress and status

The proposed project includes (i) rehabilitation or construction of new WWTP already established in different locations in the Kathmandu Valley; (ii) construction of interceptors; and (iii) improvement in the wastewater network system (rehabilitation, replacing, laying of new sewer and storm water drains, etc.).

Wastewater treatment plant (WWTP)

As per the PAM, the work should include the rehabilitation and construction of new WWTP at Kodku 7.0 MLD (Patan), Sallaghari 13.1 MLD (Bhaktapur), Dhobighat 39 MLD (Kathmandu), Guyesheshwori 30.6 MLD (Kathmandu). At the moment, construction of WWTP at Gokarna as proposed during PPTA has been now under survey by the consultant DSC-04. The two numbers of packages are ongoing for the implementation of WWTPs based on the updated capacity as per the revised design, Package I consisting of one treatment plant i.e. Guheshwori (32.4 MLD) as WWTP-01 and Package II consisting of three WWTPs i.e. Sallaghari (14.20 MLD), Kodku (17.5 MLD) and Dhobighat (37 MLD) as WWTP-

02. The WWTPs have been designed for extension and rehabilitation in the existing locations, and on government land that was acquired more than 3 decades ago. The land required for updated capacity is within the threshold of available land acquired. Population and service area coverage figures are changed based on current design estimation.

Interceptor Sewers

At present, the KVWWMP is laying interceptors along the banks of Hanumante and Manohara rivers in different packages IS-01 and IS-02 respectively. IS-03 package of interceptor along the banks of Khashyasang Khusung River has also been awarded to contractor; however, construction work has not been started.

Further, interceptor sewer package IS-03 has been awarded during the month of November, 2017. This is the package of laying of interceptor sewer pipeline laying along the Khashyasang Khusung River catering the sewer into Sallaghari WWTP.

The High-Powered Committee for Integrated Development of the Bagmati Civilization (HPCIDBC) has published a public notice (**Appendix 1**) regarding the construction prohibition for any structures within the right of river (RoR) for different rivers of Kathmandu Valley, which was decided by the Government of Nepal (2065/08/01-2008/11/06). The pipeline alignments will be on existing RoRs. The government has defined 20 m on both banks of rivers in Kathmandu as RoRs, so the interceptors will be laid within the RoWs to the extent technically feasible.

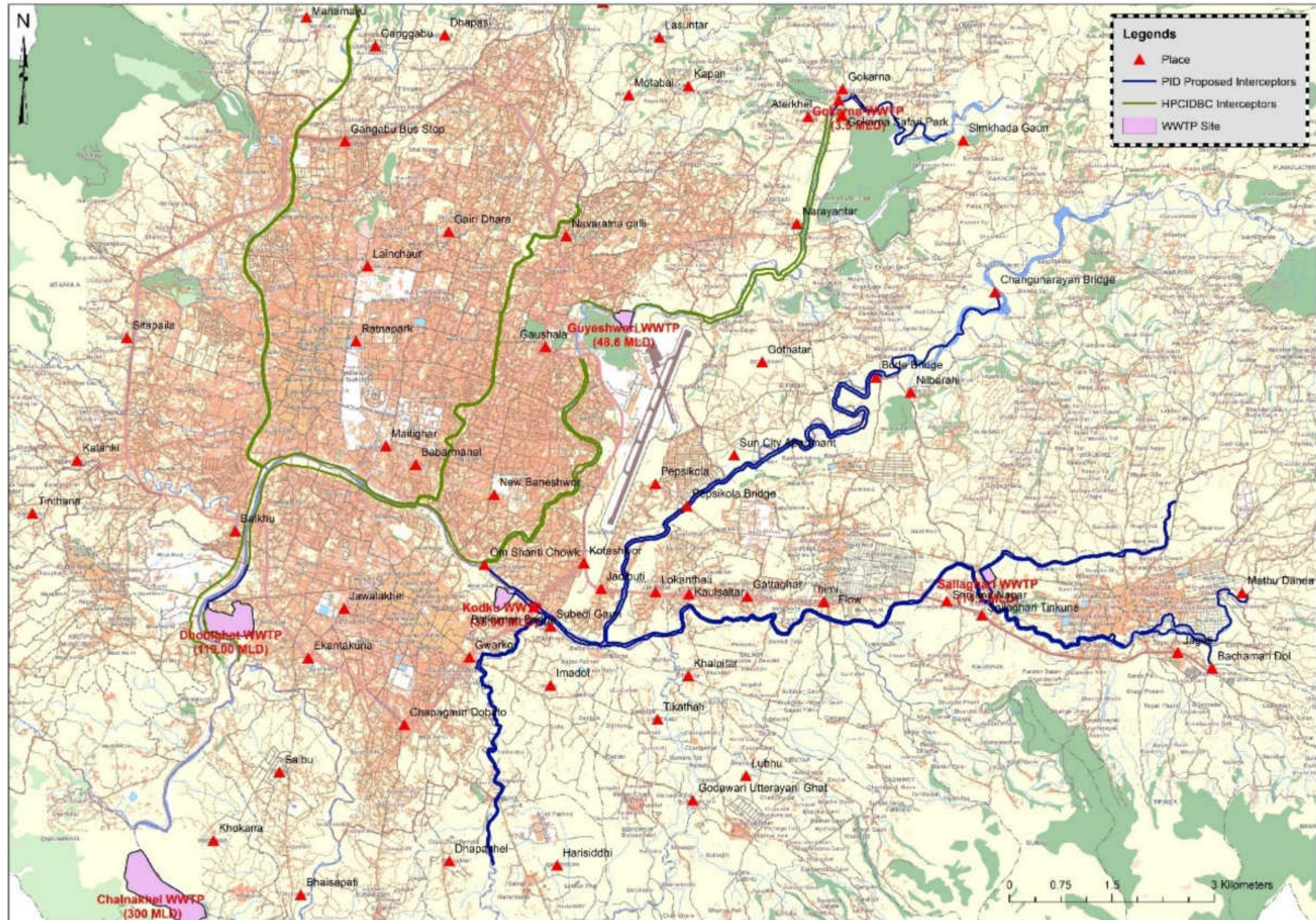


Figure 1-1: Project Locations of WWTP and Interceptor Sewer Lines.

1.6.1 Description of subprojects (package-wise) and status of implementation

The project includes (i) rehabilitation or construction of new WWTP already established in different locations in the Kathmandu Valley; (ii) construction of interceptors; and (iii) improvement in the wastewater network system (rehabilitation, replacing, laying of new sewer and storm water drains, etc.). The description of different components under this project is given below.

A. Wastewater treatment plants (WWTPs)

The work includes the rehabilitation and construction of new WWTP at Kodku (Patan), Sallaghari (Bhaktapur), Dhobighat (Kathmandu) and Guyesheshowri (Kathmandu). Now, rehabilitation and expansion of Guheshwori WWTP has been awarded. All WWTPs designed will be rehabilitated or constructed in the land area of existing WWTPs owned by government.

With ADB's concurrence to approve the bid of VA Tech Wabag Ltd., India for the Rehabilitation and Expansion of Wastewater Treatment Plant at Guheshwori with a capacity of 32.4 MLD under Contract No. KUKL/WW/TP/01, PID has awarded the contract to aforementioned bidder signing Contract Agreement on May 19, 2016. The contractor has been mobilized and working on general layout for initial arrangement including camp site, project manager's office.

The design for the expansion of Guheshwori WWTP has been completed significantly, the contractor still required to submit and approve some of the design drawings. Discussion and review on basic designs submitted by contractor is ongoing. The contractor has mobilized worker and engineers within the construction site. Workers camps has been established along the boundary area within the project site with the establishment of zinc shades and toilets with pits. Erection of centrifuge building is almost completed and now the construction of primary sedimentation pond and aeration tank is ongoing. The un-going construction work is smoothly without any environmental and social problems as well as without any safety issue.

The permission for cutting of trees for approximately 51 trees has been felled by the contractor in consent with employer. The contractor also has relocated about 22 affected trees situated near to the sludge drying beds at the boundary wall of the project area. But 5 transplanted trees have already been died by the end of November. Total number of trees in the TP-01 site was 130.

Table 1-2: Tree status at TP-01 as of December, 2017.

Sn.	Number of trees (Tree Number) transplanted	Number of trees felled (Tree Number felled)	Remarks
1.			Do not required to cut/ Shift-25 Required to relocate- 27 Required to be cut/felled- 78
2.		97	Instruction for one tree on 24 Oct, 2017

Sn.	Number of trees (Tree Number) transplanted	Number of trees felled (Tree Number felled)	Remarks
3.			Instruction on 18 Oct, 2017 for the protection of 5 pine trees which were not growing well.
4.	112	105, 104, 111	Instructed to contractor on 1 Sep, 2017 for the felling of three trees.
5.		76	Instructed to cut on 7 Aug, 2017.
6.		102, 106, 37, 38	Instructed to fell four trees on 5 July, 2017
7.	30, 34, 41, 42, 44, 47, 48, 49, 50	9, 10, 11, 14, 15, 16, 17, 18, 20, 21, 22, 28, 29, 31, 33, 35, 36, 37 and 38	Instructed to cut and transplanted on 8 June, 2017.
8.	52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 65, 66		Instructed to transfer trees to southern boundary wall on 11 May, 2017
9.		26	Instructed to remove on 11 May, 2017
10.		22, 23, 24, 25, 27, 109, 110, 112, 113, 114, 115, 116,	Instructed to demolish 12 number of trees on 3 May, 2017.
11.		5 trees for aeration tank	Instructed on 25 April, 2017
12.			5 trees for inlet and 10 trees to be felled for contractor's store. Inspected on 20 April, 2017
Total	22 transplanted but 5 transplanted trees died.	46 felled	Total number of trees removed = 46 felled + 5 transplanted died = 51

There is no any tree required to be felled at Sallaghari, Kodku and Dhobighat WWTP sites.

Proper safety measures have been undertaken by the contractor. Personal Protective Equipment (PPEs) have been provided to all the workers especially at TP-01 Guheshwori waste water treatment site and also to other staffs including DSC site engineers. Proper safety signage boards have also been placed properly within the project site in order to maintain safety.

Construction Status of WWTP-01

- Centrifuge Building: - Structural works, electrical cable trench & brick work, plastering completed.
- Primary Sedimentation Tank: - Second Wall Lift Concreting work in Progress
- Aeration Tank: - Stone column by Vibro Method and excavation completed. PCC and bar bending placement in Position & Concreting in progress.
- Anaerobic Digester: Excavation, PCC & bar bending for Digester -1 is completed. Rebar Placement in position in progress. Excavation for Digester-2 is in progress.

- Gas Scrubber Building – Roof slab work completed. Brick work in Progress.
- Operation Building – Column Concreting work of Tie Beam and Column Lift is in progress.
- Digester Control Building: - RCC for Column and Plinth Beam / Tie Beam is in progress.
- Chlorine Contact Tank: Excavation in Progress.

The contract for the bidding notice for Package II for treatment plants at Sallaghari, Kodku and Dhobighat with the capacity of 14.2 MLD, 17.5 MLD and 37 MLD respectively, KUKL/WW/TP/02, were awarded to Saf Bon Water Service (Holding) Inc., Shanghai, China has now mobilized for the fencing works for the protection of project boundary at Shallaghari and Kodku WWTPs. Fencing work along the Dhobighat has not been able to carry out yet. The contract package includes rehabilitation and construction of three wastewater treatment plants with a total capacity of 68.7 MLD. Major components of the facilities in each WWTP include primary and secondary treatment units with activated sludge process, and 204 kW of power generation at Dhobighat WWTP through sludge digestion. The contractor has not finalized the design of the WWTP sites of Sallaghari, Kodku and Dhobighat.

Construction Status of WWTP-02

- Project is effective and site team was mobilized since May 7, 2017.
- Project office was setup on June 1, 2017.
- Site team is working on site preparation and design team is working on basic design in project office and head office continuously.
- Topographic Survey work at site is completed. Survey people of the company conducted the survey work of all three sites.
- Process engineer, structural engineer and design engineer are working for the basic design works at project office.
- Basic design is submitted to the consultant for review and approval.
- Boundary wall design is approved by the consultant.
- Construction of temporary sedimentation tank for Sallaghari and Kodku site were completed. It is to dispose of waste water in the pond and existing pipe.
- Temporary fencing for Sallaghari and Kodku site was completed while the fencing for Dhobighat site was approved in Dec, 2017.
- On Nov.15, Safbon was authorized to start wastewater discharge legally on site by DSC04.
- Upon the approval of wastewater discharge and sludge removal scheme, wastewater discharge and sludge removal on Sallaghari site and Kodku site.

- By end of December, wastewater discharge and sludge removal of Sallaghari site is completed.
- Wastewater discharge and sludge removal work on Kodku site was completed in Dec.2017.

From Dec.10, 2017 geotechnical soil survey started on Dhobighat site and site activities of soil investigation on Dhobighat site is mostly completed by end Dec.22, 2017.

B. Interceptor Sewers

Interceptor Sewer IS-01

The interceptor package Contract No. KUKL/WW/IS-01, comprising intercepting sewers on the both sides of Hanumante River (25.3 km), includes construction of intercepting sewerage system along both bank of Hanumante River from Jagati of Bhaktapur along the left bank and from Chokin Chilla bridge at Kharipati along right bank of Hanumante up to Manohara confluence downstream. Other major components include 648 numbers of manhole, 6 numbers of river crossing and 8.7 km of river protection works. This package is in the stage of construction. The construction of intercepting sewer system along the Hanumante River is on progress. However, not more than approximately, 13.44% of physical progress has been completed.

The major environmental challenges facing by the contractor while excavating trench and overlaying of sewer pipeline along the Hanumante (IS-01) is (i) due to solid waste directly disposed along the river bank by Bhaktapur Municipality. There are especially three locations along the river bank (Chundevi, Shallaghari-near Radhe Radhe Bridge, and at the confluence of Hanumante and Khasang Kusung khola) where the excavation work for the river training and overlaying of sewer pipeline has already been completed. (ii) As the interceptor alignment passes through the cultivated land; most of the farm land has been cultivated with paddy, vegetables, potato etc.; the overlaying of sewer pipeline is challenging along the cultivated land. Though the contractor pre-informed the land owners or tenant along the interceptor alignment; the month of June to September is monsoon season and is the significant time for the cultivation of paddy. (iii) Further, significant encroachment at the several locations along the interceptor alignment especially in IS-01 has also barred contractor to execute the task smoothly.

Construction Status of IS-01

- Completion of laying of Interceptor of 7052.5 meter in length
- Boring and concreting works for piling were carried out at Bhimsensthan crossing (Ch:3+040 left of Hanumante river).
- Piling works of 410 meter and 33 meter concreting works base slab in Godawari and 48 meter concreting works upper slab of aqueduct near Manahara river was completed.
- Preparation for the construction of aqueduct Godawari River (Ch:6+625) for upper slab and Tyapana crossing is being carried out for which currently frameworks and

reinforcement works is ongoing,

- Pipe laying works were carried out at three different locations at Locanthali of 700 mm die pipe at 6+898, 400 mm dia pipe at two different location at chainage 3+127 and Sallaghari ground 0+000.
- Construction of manhole has been started from Jadibuti area,

Interceptor Sewer IS-02

Further, the package for the construction of intercepting sewerage system along Manohara River (11.36 km), Contract No. KUKL/WW/IS-02 package includes extension and construction of intercepting sewer system along both banks of Manohara River from Manohara and Hanumante confluence up to Sun City colony along Manohara. Other major component includes 284 numbers of manhole, 6 numbers of river crossing and 6.98 km of river protection works. The proposed section also comprises Manohara Area Land Pooling Project between Pepsicola bridge to Jadibuti Plan; where the project has planned for river diversion and training works along approximately. The physical progress of the package is only 5.24%.

Construction Status of IS-02

Np3 600 mm Diameter Pipe

Downstream of Jadibuti Bridge (Left Side)

- Total Span = 826 Meter
- Total Laid up to Previous Month = 315.0 Meter
- Total Pipe laid in this Month = 221.17 Meter
- Total Pipe laid till this Month = 536.14 Meter

NP3 900 mm Diameter Pipe:

- Total 127.24 meter of 900 diameter pipes along this span.

River Training Works:

- The finished stretch of Gabion work is 51 Meter length.

Manhole Construction Work

- Total Finished Manholes-15

Interceptor Sewer IS-03

The interceptor package Contract No. KUKL/WW/IS-0, comprising intercepting sewers on the both sides of Khashyasang Khusung River (7.679 km), includes construction of intercepting sewerage system along both bank of the River starting from near the Changunarayan Bridge which caters sewerage into Sallaghari Waste Water Treatment Plant. As there is no any physical progress achieved for this project. The contractor has not mobilized any resource to the site. Joint survey prior to the construction is ongoing. Further, under the rehabilitation and expansion of sewerage network,

Because of availability of cultivated land on the both side of the River there is no any significant obstruction of physical structures along the proposed Riverbanks throughout the length. However, at the Kalighat Cremation site the sewerage network has been diverted to the existing road instead of following river bank in order to avoid laying of interceptor through the cultural heritage site. As the cremation site has its significant cultural importance in the area. The river bank also comprises substantial number of trees growing all along the bank. The dense vegetation has been protecting riverbank along the river alignment. However, if some vegetation or trees affected with the excavation and installation of sewerage pipelines; compensation in the ratio of 1:25 for the affected trees have been proposed as mitigation measures in the EMP.

An interceptor collector Kodku Khola is still in study phase and to rehabilitate and expand sewerage network will be in another package. Package wise status of each sub projects are presented in the following table.

Table 1-3: Status of each package

Package Number	Components/List of Works	Contract Status (specify if under bidding or contract awarded)	Status of Implementation (Preliminary Design/Detailed Design/On-going Construction/Completed/O&M) ²	If On-going Construction	
				%Physical Progress	Expected Completion Date
KUKL/W W/TP-01	Construction and improvement of Treatment Plant at Guheshwori	Contract awarded on 25 Sep, 2016	Detail Design completed substantially; Construction ongoing.	44.03%	22 Jul, 2018
KUKL/W W/TP-02	Construction of Treatment Plants at Sallaghari, Kodku, and Dhobighat	Contract awarded 7 May, 2017 (30.43 Months Construction + 60 Months Operation)	Detail Design ongoing; Construction not started.	4%	6 Nov, 2024
KUKL/W W/IS-01	Construction of Interceptor Sewer along the bank of Hanumante River	Contract awarded on 17 Jan, 2016	Detail Design completed; Construction ongoing.	13.44%	27 Apr, 2018
KUKL/W W/IS-02	Construction of Interceptor Sewer along the bank of Manohara River	Contract awarded on 25 Sep, 2016	Detail Design completed; Construction ongoing.	5.24%	23 Oct, 2018
KUKL/W W/IS-03	Construction of Interceptor Sewer along the bank of Khashyang Khusung River	Contract awarded 15 Dec, 2017	Detail Design completed; Joint survey ongoing, Construction not started.	0%	

² % of physical progress and expected date of completion

2. Compliance status of project

The project has fulfilled all the statutory requirements in order to safeguard environment with the consequences due to construction works.

Table 2-1: Compliance status with national environment requirement

Package No.	Sub-project Name	Statutory Environmental Requirements ³	Status of Compliance ⁴	Validity if obtained	Action Required	Specific Conditions that will require environmental monitoring as per Environment Clearance, Consent/Permit to Establish ⁵
KUKL/W W/TP-01	Guheshwori WWTP	Initial Environmental Examination (IEE)	Prepared	N/A	N/A	No any permission required
KUKL/W W/TP-02	Sallaghari, Kodku and Dhobighat WWTPs	Initial Environmental Examination (IEE)	Prepared	N/A	N/A	No any permission required
KUKL/W W/IS-01	Hanumante Interceptor Sewer	Initial Environmental Examination (IEE)	Prepared	N/A	N/A	No any permission required
KUKL/W W/IS-02	Manohara Interceptor Sewer	Initial Environmental Examination (IEE)	Prepared	N/A	N/A	No any permission required
KUKL/W W/IS-03	Khashyang Khusung Interceptor Sewer	Initial Environmental Examination (IEE)	Prepared	N/A	N/A	No any permission required

³ Specify (environmental clearance? Permit/consent to establish? Forest clearance? Etc.)

⁴ Specify if obtained, submitted and awaiting approval, application not yet submitted

⁵ Example: Environmental Clearance requires ambient air quality monitoring, Forest Clearance/Tree-cutting Permit requires 2 trees for every tree, etc.

3. Compliance status with environmental loan covenants

The compliance status with environmental and social loan covenants are presented in the following table.

Table 3-1: Status of environmental and Social loan covenants

S.N.	Covenants as Mentioned in Schedule 5	Status of Compliance	Action Required
	Implementation Arrangements		
	Land Acquisition and Involuntary Resettlement		
Loan Agreement Schedule 5, para 3	The Borrower shall ensure, or cause KVWSMB and KUKL to ensure, that all land and all rights-of-way required for the Project are made available to the Works contractor in accordance with the schedule agreed under the related Works contract and all land acquisition and resettlement activities are implemented in compliance with (a) all applicable laws and regulations of the Borrower relating to land acquisition and involuntary resettlement; (b) the Involuntary Resettlement Safeguards; and (c) all measures and requirements set forth in the RP, RF and any corrective or preventative actions set forth in a Safeguards Monitoring Report.	No major land acquisition is involved in the activities of packages of construction of interceptors and wastewater treatment plants of the project. However, most of the land along the river banks are cultivated and locals are still cultivating paddy and vegetables.	During construction, contractor will inform locals along the interceptor sewer alignment prior to the excavation of trench in order to harvest the cultivations and will let the locals continue their cultivation after installation of sewer pipelines and manholes.
Loan Agreement Schedule 5, para 4	Without limiting the application of the Involuntary Resettlement Safeguards or the RP, and in addition to paragraph 8 of Schedule 4 of this Loan Agreement, the Borrower shall ensure, or cause KVWSMB and KUKL to ensure, that no physical or economic displacement takes place in connection with the Project until: (a) compensation and other entitlements have been provided to affected people in accordance with the RP; and (b) a comprehensive income and livelihood restoration program has been established in accordance with the RP.	No physical or economic displacement has been taken place.	Implementation of RP
	Indigenous Peoples		
Loan	The Borrower shall ensure that the Project does not have any indigenous	No major indigenous peoples	No any action required.

S.N.	Covenants as Mentioned in Schedule 5	Status of Compliance	Action Required
	Implementation Arrangements		
Agreement Schedule 5, para 5	peoples impacts within the meaning of SPS. In the event that the Project does have any such impact, the Borrower shall take all steps required to ensure that the Project complies with the applicable laws and regulations of the Borrower and with the SPS.	impacts is involved in the activities	
Loan Agreement Schedule 5, para 6	The Borrower shall make available KVWSMB and KUKL to make available necessary budgetary and human resources to fully implement the EMP and the RP.	PID now has Safeguards Unit with full-time officers and CASSC (to be recruited in near future) to fully implement the EMP and the RP.	CASSC in place
	Safeguards – Related Provisions in Bidding Documents and Works Contracts		
Loan Agreement Schedule 5, para 7	<p>The Borrower shall ensure, or cause KVWSMB and KUKL to ensure, that all bidding documents and contracts for Works contain provisions that require contractors to:</p> <p>(a) comply with the measures relevant to the contractor set forth in the IEE, the EMP, and the RP (to the extent they concern impacts on affected people during construction), and any corrective or preventative actions set forth in a Safeguards Monitoring Report;</p> <p>(b) make available a budget for all such environmental and social measures;</p> <p>(c) provide the Borrower with a written notice of any unanticipated environmental, resettlement or indigenous peoples risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP, and the RP;</p> <p>(d) adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction; and</p> <p>(e) reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.</p>	Complied. All bidding documents are prepared as per ADB Standard Bidding Document (SBD).	No any action required.

S.N.	Covenants as Mentioned in Schedule 5	Status of Compliance	Action Required
	Implementation Arrangements		
	Safeguards Monitoring and Reporting		
Loan Agreement Schedule 5, para 8	The Borrower shall do the following, or cause KVWSMB and KUKL to do the following: (a) submit semiannual Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission; (b) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP, and the RP, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan; and (c) report any actual or potential breach of compliance with the measures and requirements set forth in the EMP or the RP promptly after becoming aware of the breach.	Mentoring and reporting will be done as per covenants	No any action required.
	Labor Standards		
Loan Agreement Schedule 5, para 10	The Borrower and KUKL shall ensure that the contractors comply with all applicable labor, health, and safety laws and regulations of the Borrower and, in particular, (a) do not employ child labor for construction and maintenance activities, and (b) provide appropriate facilities (latrines, etc.) for workers at construction sites. The Borrower shall require contractors not to differentiate wages between men and women for work of equal value. The Borrower and KUKL shall ensure that specific clauses shall be included in bidding documents to ensure adherence to these provisions, and that compliance are strictly monitored during project implementation.	Complied. PID through its Design and Supervision Engineer (DSC) is supervising and monitoring the compliance with labor, health and safety law regulations. The project work is in compliance with ADB's requirements and national laws & regulations.	No any action required.
	Gender and Development		
Loan Agreement	The Borrower shall cause KUKL to (a) implement the GESI action plan and CAPP in a timely manner over the entire Project period; (b) achieve the targets	Partially Complied. Community Awareness	Effective

S.N.	Covenants as Mentioned in Schedule 5	Status of Compliance	Action Required
	Implementation Arrangements		
Schedule 5, para 11	stated in those documents; (c) allocate adequate resources for this purpose; (d) provide training to all Project staff on GESI action plan and CAPP; and (e) closely monitor and report progress on the implementation of GESI and CAPP to ADB.	Consultant (CASSC) is in place, GESI action plan and CAPP shall be implemented.	implementation
	Grievance Redress Mechanism		
Loan Agreement Schedule 5, para 16	Within 12 months of Effective Date, KUKL shall prepare a grievance redress mechanism, acceptable to ADB, and establish a special committee to receive and resolve complaints and grievances or act upon reports from stakeholders on misuse of funds and other irregularities, including grievances due to any resettlement. The special committee shall (a) make public the existence of the grievance mechanism, (b) review and address grievances of stakeholders of the Project, in relation to either the Project, any of the service providers, or any person responsible for carrying out any aspect of the project; and (c) proactively and constructively responding to them.	Partially complied. Grievance redress mechanism (GRM) established but is only being partially implemented. A special committee in PID to receive and resolve complaints and grievances has also been formed. At field level, GRM committee formation is in process.	Effective implementation

4. Compliance Status with the Environmental Management Plan

All the compliance status related Environmental Management Plan of all sub-projects implemented under loan 3000 is presented hereunder.

Table 4-1: Package-wise IEE Documentation Status

Package Number	Final IEE based on Detailed Design				Site-specific EMP (or Construction EMP) approved by Project Director? (Yes/No)	Remarks
	Not yet due (detailed design not yet completed)	Submitted to ADB (Provide Date of Submission)	Disclosed on project website (Provide Link)	Final IEE provided to Contractor/s (Yes/No)		
KUKL/WW/TP-01	Detail Design completed	31 Dec, 2017 E-copy for review	Not yet	EMP attached in Bidding document	Construction EMP prepared and approved	Existing IEE of all the project was updated and send informally to ADB mission team for review. Comments from ADB team not received yet. Two IEE reports are established; one for TP projects and another for IS projects.
KUKL/WW/TP-02	Detail Design not yet completed	31 Dec, 2017 E-copy for review	Not yet	EMP attached in Bidding document	Construction EMP not prepared	
KUKL/WW/IS-01	Detail Design completed	31 Dec, 2017 E-copy for review	Not yet	EMP attached in Bidding document	Construction EMP prepared and approved	
KUKL/WW/IS-02	Detail Design completed	31 Dec, 2017 E-copy for review	Not yet	EMP attached in Bidding document	Construction EMP prepared and approved	
KUKL/WW/IS-03	Detail Design completed	31 Dec, 2017 E-copy for review	Not yet	EMP attached in Bidding document	Construction EMP not prepared	

Table 4-2: Package-wise Contractor/s' Nodal Persons for Environmental Safeguards

Package Name	Contractor	Nodal Person	Email Address	Contact Number
KUKL/WW/TP-01	VA TECH WABAG LTD.	Mr. Ratnakar Kakarla	wabag@wabag.in	Cell: 977-1-9823870473
KUKL/WW/TP-02	Safbon Water Service (Holding) INC., Shanghai No. 666, Zhangliantang Road, Qingpu District, Shanghai People's Republic of China	Mr. Li Qiang	liqiangqiang@safbon.com , safbon@safbon.com	Phone: 0977-1-9851188288, +86-21-62569366 Fax: +86-21-62564865
KUKL/WW/IS-01	GIETC-LAMA-RAMAN JV	Mr. Gelje Lama	lamaconstruction.nepal@gmail.com	Phone: 0977-1-4412756, Fax: 0977-1-4410286
KUKL/WW/IS-02	ZIEC-SHARMA-BKOL P.O. Box 9961, Tangal, Kathmandu, Nepal	Mr. Rajan Shrestha	hnikoirala@gmail.com , bbkoibuilders@yahoo.com	Phone: 0977-1-4428769, 4440902, Fax: 0977-1-4430166
KUKL/WW/IS-03	LAMA-RAMAN-GOLDEN GOOD JV	Mr. Gelje Lama	goldengood2052@gmail.com	Phone: +977-01-4107909 Fax: +977-01-4107908

Summary of Environmental Monitoring Activities (for the Reporting Period)⁶**Table 4-3: Environmental monitoring indicators and status for sub-projects**

S.N.	Activities	Progress	Remarks
Pre-construction activities			
1.	Preparation/ updating of Environmental Management Plan of each sub-project by contractor based on changes in project design	EMP revision completed	EMP approved for TP-01, Contractor preparing CEMP for TP-02, and IS-03. EMP prepared by contractor for IS-01 and IS-02 has been approved.
Construction activities			
2.	Replacement/ shifting of community property resources	Not foreseen	
3.	Reinstallation of public utilities	Not foreseen	Will be done if identified.
4.	Records of Grievances Redress	No any grievance received for environmental issues.	Complaint will be recorded in site registration book.
5.	Prohibition of employment or use of children as labor	No child labour	No any labour under the age of 16 are working
6.	Prohibition of Forced labor or Compulsory Labor	Contract/bid documents include such clauses and contractors will be reminded regarding the same.	
7.	Ensure equal pay for equal work to both men and women	Contractors will ensure and will be made aware of equal payment for men and women	Less women are working as a labour worker. Equal wage is being provided.
8.	Safety maintained at site	Safety has been maintained in all the construction sites	No any critical accident occurred till date.
9.	OHS of all the workers maintained	No any issue related to OHS observed till now	Established camps are in good sanitary condition, no any disturbances to the ambient environment and no any grievances from the locals. No any labour below 16 is working in construction. Potable water has been supplied to all the labours by the contractors.
10.	Implementation of all statutory provisions on labor like health, safety, welfare, sanitation and working conditions	Regular monitoring. HIV/AIDS awareness with all the contractors labours will be organized at one of the Contractor's based camp.	CASSC will be involved to carry out the tasks.
11.	Establishment of camps and operation	Camps are established within the project area at TP-01, whereas camps are established at the safer distance at IS-01 and IS02	No any impacts are identified with the operation of camps. Waste generated from the camps has been disposed safely.

⁶ Attach Laboratory Results and Sampling Map/Locations

S.N.	Activities	Progress	Remarks
12.	Maintenance of employment records of workers	As part of GAP, Contractors will be maintained proper attendance sheet with addition of column showing male female (GAP).	It is further requested to contractors of all the ongoing projects to maintain record of labour workers and present in the monthly progress report.
13.	Stockpiling of the construction materials	Construction materials are stockpiled properly	No any severe impact has been identified with the stockpiling of construction materials in all the construction sites. Most of the stockpiles are along the river banks for IS projects. The contractors are requested to maintain stockpiling area properly without affecting existing river, nearby cultivated land and private property.
14.	Air and Noise pollution due to construction and excavation work	No any air and noise pollution due to construction and excavation work	Laying of sewer pipes are mostly along the river banks where there is very less traffic,
15.	Disposal of excavated soil	Soil excavated from the trench has been backfilled properly after overlaying the sewerage pipeline	Haphazard disposal of excavated soil has been avoided; no direct disposal of soil on the adjacent river.
16.	Landscape management and reinstate	Land (mostly cultivated) along the interceptor has been restored with proper backfilling and landscaping.	No any grievance received after restoring land along the interceptor alignment.
17.	Any other	No any impacts identified with the overlaying of interceptor sewer pipes	Vegetation and trees situated at the banks of the river were unharmed while overlaying the sewer pipes along the alignment

The PID, with assistance from the DSC - 04 is doing the following activities:

- (i) DSC safeguard experts participated in ADB NRM held on 13-21 November, 2017. Safeguard experts including Site Construction and Supervision Engineers of DSC also participated in one-day Safeguard Workshop and two days Health and Safety Workshop.
- (ii) IEE for all the sub-project is updated based on detailed design of interceptor and wastewater treatment plants; and emailed to ADB NRM team for suggestion. The updated report formally submitted to PID on December 31, 2017.
- (iii) EMPs are included in bidding documents and civil works contracts in the interceptors and WWTPs;
- (iv) Over sighting on environmental management aspects of the project and ensure EMPs are implemented by DSC and contractors;
- (v) Facilitating and confirming overall compliance with all government rules and regulations regarding forest and road permits as well as any other approvals as relevant;
- (vi) Supervising and providing guidance to the contractors to properly carry out the construction activities considering environmental aspects as per updated EMP of the sub-project;

- (vii) DSC has also prepared Health and Safety Manual and get approval from PID and also circular to all contractors working under loan 3000. The manual has been forwarded to ADB mission team during November, 2017.
- (viii) Consolidating quarterly monitoring reports from DSC and submit semi-annual monitoring report to ADB;
- (ix) Conducting ongoing consultation with the community during implementation of the project; and
- (x) Establish a grievance redress mechanism for all the contract packages interceptor, wastewater treatment plants and sewer networks. Committees for grievance redress mechanism is yet to be established. PID, consultants, contractors are coordinating with recently established elected local bodies. The committees will be established soon.

Overall Compliance with CEMP/ EMP

Table 4-4: Compliance as per CEMP

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
1.	KUKL/WW/TP-01	Yes, CEMP prepared by contractor	CEMP implemented	Satisfactory	N/A
2.	KUKL/WW/TP-02	CEMP not prepared by contractor	CEMP not implemented	Not implemented	Contractor shall prepare CEMP and approve by DSC
3.	KUKL/WW/IS-01	CEMP prepared by contractor	CEMP not properly implemented	Partially Satisfactory	N/A
4.	KUKL/WW/IS-02	CEMP prepared by contractor	CEMP not implemented properly	Partially Satisfactory	N/A
5.	KUKL/WW/IS-03	CEMP not prepared by contractor	CEMP not implemented	Not implemented	Contractor shall prepare CEMP and approve by DSC

5. Approach and methodology for environmental monitoring of the project

The project comprises Design and Supervision Consultant (DSC-04) for the construction supervision of all construction. The DSC team comprises Site Construction and Supervision Engineer designated for each sub-project and an Environment Safeguard Specialist and a Social Safeguard Specialist for the monitoring of all sub projects implemented under loan 3000.

The project also comprises CASSC a separate consultant team for the generation of awareness at the local level. Observation and site meetings can be considered as major approach and methodology for the monitoring of the project.

6. Monitoring of environmental impacts on project surroundings

No any impacts upon air, water quality and noise has been identified with the construction activity of waste water treatment plant and laying of sewerage pipes of interceptor packages along the river banks.

7. Monitoring of environmental impacts on project surroundings

Waste water treatment plant sites (WWTPs)

- No any dust pollution is identified within and around the construction at Guheshwori WWTP site TP-01. The site is situated at the bank of Bagmati River near hindu holy temple Guheshwori. The construction site is plane and flat area and no any excavated earth material has been disposed into the holy Bagmati river. Labour camps are established within the project construction site. The waste generated from the camps are well managed. Toilets are well established and wastes from toilets are also managed within the construction site establishing septic tanks. Contractor has also supplied potable water to labour workers. The boundary of project area has been maintained hence the construction work do not have direct impact to surroundings. The vicinity of the project area is now urbanized significantly. Bagmati river is situated at the east and south; Guheshwori temple is situated at south-west direction; whereas urban road and dense settlement is existed at the norther side of the project area. No any issues related to noise due to construction and movement of construction vehicle. There is no any significant noise disturbance due to construction work. Traffic along the existing road is very significant as most of the vehicle from outskirts such as from Sankhu, Jorpati, Sundarijal area ply the road as short cut Bagmati corridor rout in order to reach inner area of Kathmandu. Significant number of construction vehicles also ply the road from such outskirts and vice versa. All construction materials are stored with the project compound area without affecting others. To date no night time shift has been carried out. The construction works are being carried out only during day time. Sufficient safety signage boards have been established within the project area.
- Construction of TP-02 (Sallaghari, Kodku and Dhobighat) has not been started.

Interceptor Sewer sub-projects (IS-01, 02 and 03)

- Dust is identified only during the excavation of trenches for the laying of sewerage pipes along the river banks. Most of the river banks are muddy and dusty however; there is very less houses and settlement established close to the river banks.
- The excavated materials stockpiles close to the river banks but no bank erosion identified due to construction. Sedimentation control measures such as gabion weld mesh applied in the river bed at the upstream of Hanumante river (IS-01); no any significant impact of sedimentation identified in other projects.
- Dust measurement has not been carried out yet by the contractor. However, on any remarkable dust pollution is visible after completion of pipe laying works.
- No any open storage of cements, chemicals and refueling around the sites are identified.
- Spill kits are not in place on sites, as the use and spillage of chemicals in interceptor sewer sub-projects is minimal. Spillage of small amount of diesel oil occurs while transferring from container to the excavator or/and generator established for power back up.
- Contractors are instructed to maintain proper signage boards in order to maintain safety all along the project sites. However, till date there is no any major and fatal accident has occurred due to construction activity.
- Safety checklist has been prepared as a part of Health and Safety Manual by DSC-04 for loan 3000. Safety checklist has also been used during site visits by safeguard specialists of DSC. Some filled checklists are attached in Annex.
- Noise is not significant with the overlaying of sewerage pipelines. As the sewerage alignment is all along the river banks the area gets muddy during the rainy season.

- No any water quality test has been carried out yet. However, water pollution due to construction work does not seems significant.

8. Grievance Redress Mechanism

Grievance redress Committee (GRC) at the project level is in place. It is a four tiers mechanism to address grievances related to APs in the implementation of the project. GRCs at other levels will be formed during the implementation of the project as mentioned in the IEE Report.

Till date no any grievances related to the environmental issue were received with the implementation of the sub-projects. As most of the interceptor sewer construction work has been carried out along the river banks; disturbance to traffic is minimal. Similarly, the construction of WWTPs are within the confined project location; the construction activities do not have any significant disturbance upon environment and to the local people. Consultation and coordination between consultants, employer and contractors including coordination with recently elected local bodies is still going.

9. Complaints received during the reporting period

No any complaints and grievance received on IEE report and upon implemented TP and IS Sub-projects.

10. Summary of key issues and remedial actions

The following presents summary of key issues and its remedial actions required.

Table 10-1:Key issues and remedial actions for IS sub-projects.

Sn.	Key Issues	Remedial Actions	Time bound
1.	Safety during construction	Regular tool box talks, proper PPEs to all labour workers	Daily. Contractor will be responsible to provide PPEs to labour workers As and when required.
2.	Proper barricade along the construction sites especially at IS sites	Provide barricading	CSC insists contractor to provide proper barricading in all ongoing construction sites soon.
3.	Erosion due to trench excavation	Soaring along the trench	Especially during deep excavation of trench
4.	Dust and Air	Trench excavation in piecemeal, proper backfill and rehabilitation, avoid haphazard disposal of excavated materials.	Daily.

11. Summary of consultations and disclosure:

Sufficient number of public consultation program with key stakeholders has been carried out in line with the requirements pertaining to environmental and social considerations. Coordination meetings have also been executed with the newly elected local representatives at local level in order to inform

about the ongoing project activities and requested them to support in dealing with locals along the interceptor. The summary of public consultation has been presented in the following table.

Consultation and coordination meeting has also been carried out with local wards and municipalities for the detailed design of collector Khashyang Khusung located at Bhaktapur and Kodku located at Lalitpur District. Discussions and consultation meetings were held with Bhaktapur Municipality, Suryabinayak Municipality, Changunarayan Municipality and Madhyapur Municipality of Bhaktapur District in different aspects. During the consultation information about the project including project alignment and location of WWTPs has been discussed with the participants.

The summary of public consultation is presented in the following table.

Table 11-1: List of Public Consultations

SN	Date/ Month	Location	No. of Participant			Topics Discussed
			Male	Female	Total	
1.	16 th August 2017	Madhyapur Thimi Municipality	20	5	25	Coordination Meeting
2.	17 th August 2017	Changunarayan Municipality	17	3	20	Coordination Meeting
3.	30 th August 2017	Suryabinayak Municipality	22	3	25	Coordination Meeting
4.	16 th Sep. 2017	Ktm..Manohara	38	3	41	Information dissemination of the project
5.	16 th Sep. 2017	Narephant Kathmandu	21	7	28	Information dissemination of the project
6.	16 th Sep. 2017	Kageswari,Manahara	28	4	32	Information dissemination of the project
7.	28 th Oct 2017	Narephant Kathmandu	21	7	28	Information dissemination of the project
8.	28 th Oct 2017	Manahara Ktm -32	36	18	54	Information dissemination of the project
9.	10 th Nov. 2017	Bhaktapur Municipality	18	7	25	Coordination Meeting
10.	30 th Nov.2017	Lalitpur Metropolitan	14	-	14	Coordination Meeting
11.	12 th Dec,2017	Madhyapur Thimi Municipality	8	8	16	Coordination Meeting
12.	24 th Dec.2017	Changunarayan Municipality	13	6	19	Coordination Meeting

Annex 1: Photographs

	
<p>Overlaying of sewer pipe IS-01</p>	<p>Site clearance prior to the overlaying of sewer pipes along the left bank of Hanumante Section (IS-01 section)</p>
	
<p>Clear river bank along Khashyang Khusung River IS-03 prior to installation of pipes.</p>	<p>Kodku waste water lagoon and near by settlement</p>
	
<p>Boundary fencing works with zinc plates in TP-02</p>	<p>Laying of pipes in IS-02</p>

	
<p>First Aid Kits maintained at TP-01</p>	<p>Proper storage of construction materials within the WWTP compound at TP-01</p>
	
<p>Under construction operational building and safety sign at TP-01.</p>	<p>Under construction operation building TP-01</p>
	
<p>Under construction Sedimentation tank for the collection of construction drainage before dispose into the river.</p>	<p>Camp sites within the TP-01 compound area.</p>

Annex 2: Public Notice of HPCIDBC about RoW of River

Public Notice of HPCIDBC about RoW of River


PROHIBITION NOTICE OF CONSTRUCTION OF ANY STRUCTURES ON THE RIGHT OF WAY (ROW) OF THE RIVERS OF KATHMANDU VALLEY BY THE HIGH POWERED COMMITTEE FOR INTEGRATED DEVELOPMENT OF THE BAGMATI CIVILIZATION (HPCIDBC)

(Notice published on 19 Asadh 2069 (3 July 2012) in the government daily newspaper *Gorkhapatra*)

This prohibition notice covers construction of any structures within the Right of Way (RoW) on the following banks of rivers in Kathmandu Valley:

1. Bagmati, Bishnumati, and Manohara rivers—20 m from either side of the banks of the rivers.
2. Dhobikhola River—areas as fixed by the Dhobikhola project and 9 m from either side of the banks of the river in non-project areas.
3. Nakkhu River-12 m from either side of the bank of the river.
4. Balkhu, Karmanasa, Kodku, Sangle, and Mahadev Rivers—12 m from either side of the banks of the rivers.
5. Samakhusi and other rivers flowing in the valley— 4 m from either side of the banks of the rivers.
6. Hanumante Rivers—20 m from either side of the banks of the rivers.

Public Notice of HPCIDBC about RoW of River published in newspaper



नेपाल सरकार

अधिकार सम्पन्न वाग्मती सभ्यता एकीकृत विकास समिति
गुह्येश्वरी, काठमाण्डौको

सूचना ! सूचना !! सूचना !!!

काठमाण्डौ उपत्यका नगर विकास समितिले निर्धारण गरेको 'काठमाण्डौ उपत्यका भित्रका नगरपालिका र नगरान्मुख गा.वि.स. हरूमा गरिने निर्माण सम्बन्धी मापदण्ड '२०६४' को परिच्छेद २ को प्रकरण नं. ११ र सोही परिच्छेदको प्रकरण ६.२ को देहाय १ र २ मा नेपाल सरकार (मन्त्रिपरिषद्) बाट मिति २०६५/०८/०१ मा भएको संशोधित निर्णय अनुसार खोला किनारामा निर्माण गर्ने सम्बन्धमा देहायको खोलाको नापीको नक्साबाट कायम रहेको छेउवाट दायाँ वायाँ देहायका दूरी छोडी मात्र निर्माण गर्न पाइने कानूनी प्रावधान रहेको व्यहोरा सबैमा जानकारीको लागि अनुरोध गरिन्छ ।

देहाय

१. वाग्मती, विष्णुमती र मनोहरा खोलामा २०/२० मीटर
२. धोविखोलाको हकमा धाविखोला आयोजना भएको स्थानमा प्रोजेक्टको प्लानिङ्ग अनुसारको दूरी र प्लानिङ्ग बाहेकका स्थानमा १/१ मीटर
३. नख्खु खोलामा १२/१२ मीटर
४. बल्खु, कर्मनासा, कोङ्कु, साङ्ग्ले र महादेव खोलामा १०/१० मीटर
५. करखुसी खोलामा ६/६ मीटर
६. टुकुचा, सामाखुसी, र उपत्यकामा वग्ने अन्य खोलामा ४/४ मीटर र कुनैपनि खोला खोल्सी र राजकूलो छाप पाइने छैन ।
७. हनुमन्ते खोला वग्ने नगरान्मुख गा.वि.स. हरूमा समेत खोलाको किनारवाट २० मीटर छाडी निर्माण गर्न पाइने साथै मापदण्डको परिच्छेद २ को प्रकरण नं.६.२ को देहाय १ र २ मा रहेको FAR १.२५ को सट्टा १.५ कायम गर्ने। उपरोक्त मापदण्ड कायम राखी यस समितिको मिति २०६९/०२/२५ को १७३औं वार्ड बैठकको निर्णयबाट वाग्मती नदीको विभिन्न स्थानमा देहाय बमोजिम वहाव क्षेत्र (नदीको भित्री भाग) निर्धारण भएको छ । साथै काठमाण्डौ उपत्यकाका अन्य नदीहरू विष्णुमती, मनोहरा, धोवीखोला, नख्खुखोला, बल्खु, कर्मनासा कोङ्कु, साङ्ग्ले, महादेवखोला, करखुसी खोला, टुकुचा, सामाखुसी, हनुमन्ते लगायत अन्य खोलासमेतको बहाव क्षेत्र निर्धारण हुने क्रम जारी रहेकोले नदीहरूको वहावक्षेत्रमा प्रतिकूल असर पर्ने कार्य नगर्नु नगराउनु हुन समेत सम्बन्धित सरोकारवाला निकाय, व्यक्ति, संघ/संस्थालाई यसै सूचनाद्वारा जानकारी गराइन्छ ।

वाग्मती नदीको देहायको स्थानमा देहाय बमोजिम वहावक्षेत्र (नदीको भित्री भाग) निर्धारण गरिएको छ ।

- (क) सुन्दरीजल-गोकर्ण ब्यारेजसम्म २० मीटर,
- (ख) गोकर्ण-ब्यारेज-जोरपाटी पुलसम्म ३५ मीटर एवं जोरपाटी पुलगुह्येश्वरी खण्डमा ४० मीटर,
- (ग) हालको वाग्मतीनदीको वहावलाई नै आधार मानी तीलगंगा-शंखमूल खण्डमा न्यूनतम ३० मीटर,
- (घ) शंखमूलदेखि विष्णुमती नदीको संगमसम्म न्यूनतम ६० मीटर र
- (ङ) विष्णुमती दोभान तथा सोभन्दा तल्लो तटीय क्षेत्रमा न्यूनतम ८० मीटर

यो सूचनालाई बेवास्ता गरी उक्त वहाव क्षेत्र एवं मापदण्ड विपरित कुनै प्रकारको कार्य गरे गराईएको पाइएमा कानून बमोजिम कारवाही भैजाने व्यहोरा समेत अवगत गराइन्छ ।

Annex 3: Safety Checklist

Some filled Safety Checklists for different construction sites.

Safety Checklist

Format No. C-18

Contract name: ZIEC - Sharma - BKOI
Contract number: IS-02

No.	Particulars	Yes	No
1	Is the ground of working site clear and secure?		<input checked="" type="checkbox"/>
2	Is the housekeeping at the site good?		<input checked="" type="checkbox"/>
3	Is the unwanted debris cleared?		<input checked="" type="checkbox"/>
4	Is the safety signage board placed around the working site adequate?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5	Is the safety barricade placed around is adequate?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6	Is the number of laborers sufficient? If yes, how many are working?.....8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
7	Are all the workers wearing hard hats?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8	Are all the workers wearing high visibility vests?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
9	Are all the workers wearing safety boots?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
10	Are all the workers wearing PPEs? If No, how many?.....	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
11	Is the First Aid box on site and in good condition?		<input checked="" type="checkbox"/>
12	Has there been regular induction training carried out by the contractor to their laborers? And how many trainings had been carried out till now?.....	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
13	Are all the laborers above age 16 working on site?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
14	Is the health and hygiene at labor camps in good condition?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
15	Has potable water been provided to all the laborers?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
16	Are all the areas free of spilled of diesel and other lubricants within the construction and around the camp site?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
17	Are all the excavated trenches > 1.5m depth attended?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
18	Is there any emergency plan for the construction site?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
19	Is the excavated material piled safely without earth falling into the trench again?		<input checked="" type="checkbox"/>
20	Are the construction materials stockpiled properly?		<input checked="" type="checkbox"/>
21	Does the contractor check his machinery regularly and is it in good condition?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22	Has any critical accident occurred since last month? <u>No any accident</u>		

If any item is answered with a "No", explain below:

1,2 The construction site is muddy & slippery
 3,19 Safety Debris piled near to excavated trench
 4,5 Safety barricade placed but not sufficient.
 8-11 Hard hat provided, Safety boot provided
 20 Construction material scattered.

Name: Ritesh Chitrokar
Env. Specialist.
RiteshName: Saroj Pandey
Site Engineer
SarojSignature/date:
DSC04
30 July, 2017Signature/date:
Contractor
30-07-2017

Kathmandu Valley Waste Water Management Project

Safety Checklist

Contract name: *UPstream*Contract number: *2501*Type of work executing: *Trench excavation RadheRadhe*

Sn.	Particulars	Yes	No
1.	Is the ground of working site clear and secure?	<input checked="" type="checkbox"/>	
2.	Is the housekeeping at the site good?	<input checked="" type="checkbox"/>	
3.	Is the unwanted debris cleared?	<input checked="" type="checkbox"/>	
4.	Is the safety signage board placed around the working site adequate?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5.	Is the safety barricade placed around is adequate?	<input checked="" type="checkbox"/>	
6.	Are all the workers wearing hard hats?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
7.	Are all the workers wearing high visibility vests?	<input checked="" type="checkbox"/>	
8.	Are all the workers wearing safety boots?	<input checked="" type="checkbox"/>	
9.	Are all the workers wearing PPEs? If No, how many?..... <i>1</i>	<input checked="" type="checkbox"/>	
10.	Is the First Aid box on site and in good condition?	<input checked="" type="checkbox"/>	
11.	Has there been regular induction training carried out by the contractor to their labour? And how many trainings had been carried out till now?	<input checked="" type="checkbox"/>	
12.	Are all the labourers above age 16 working on site?	<input checked="" type="checkbox"/>	
13.	Is the health and hygiene at labour camps in good condition?	<input checked="" type="checkbox"/>	
14.	Is temporary toilet established at labour camp in proper position and waste from the toilet has been managed properly?	<input checked="" type="checkbox"/>	
15.	Has potable water been provided to all the labours?	<input checked="" type="checkbox"/>	
16.	Are all the areas free of spilled of diesel and other lubricants within the construction and around the camp site?	<input checked="" type="checkbox"/>	
17.	Are all the excavated trenches > 1.5m depth attended?	<input checked="" type="checkbox"/>	
18.	Is there any emergency plan for the construction site?	<input checked="" type="checkbox"/>	
19.	Is the excavated material piled safely without earth falling into the trench again?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
20.	Are the construction materials stockpiled properly?	<input checked="" type="checkbox"/>	
21.	Does the contractor check his machinery regularly and is it in good condition?	<input checked="" type="checkbox"/>	
22.	No any critical accident has occurred since last month?	<input checked="" type="checkbox"/>	
23.	There is no other safety issue to be considered within the working site; right?	<input checked="" type="checkbox"/>	

If any item is answered with a "No", explain below; if the question is not applicable mention N/A:

3 Excavation work is ongoing.

5 Site barricaded but not sufficient.

19 Excavated material disposed close to excavated trench.

Name: *Rikesh Chitrakar**Rikesh 8 Oct. 2017*

Signature/date:

DSC04 representative

Name: *Shree Krishna**Shree Krishna*

Signature/date:

Contractor's representative

DSC04, Dohwa Engineering Co. Ltd.
In Association with ERMC and BDA

Health and Safety Manual

Safety Checklist

Format No. C-18

Contract name:

Contract number:

No.	Particulars	Yes	No
1	Is the ground of working site clear and secure?	✓	
2	Is the housekeeping at the site good?	✓	
3	Is the unwanted debris cleared?		✓
4	Is the safety signage board placed around the working site adequate?		✓
5	Is the safety barricade placed around is adequate?		✓
6	Is the number of laborers sufficient? If yes, how many are working?.....2...	✓	
7	Are all the workers wearing hard hats?	✓	
8	Are all the workers wearing high visibility vests?		✓
9	Are all the workers wearing safety boots?		✓
10	Are all the workers wearing PPEs? If No, how many?.....2.....		✓
11	Is the First Aid box on site and in good condition?		✓
12	Has there been regular induction training carried out by the contractor to their laborers? And how many trainings had been carried out till now?.....	✓	
13	Are all the laborers above age 16 working on site?	✓	
14	Is the health and hygiene at labor camps in good condition?	N/A	
15	Has potable water been provided to all the laborers?	✓	
16	Are all the areas free of spilled of diesel and other lubricants within the construction and around the camp site?	✓	
17	Are all the excavated trenches > 1.5m depth attended? <i>laborers are working</i>	✓	
18	Is there any emergency plan for the construction site?	✓	
19	Is the excavated material piled safely without earth falling into the trench again?		✓
20	Are the construction materials stockpiled properly? <i>(No seen)</i>	✓	
21	Does the contractor check his machinery regularly and is it in good condition?	✓	
22	Has any critical accident occurred since last month? <i>(No accident)</i>	✓	

If any item is answered with a "No", explain below:

32/19 Debris could fall either into river or into excavated area
 5/16 No any safety barricades were seen around the site
 8-11 No proper PPEs except hard hat wearing, No first aid box at site


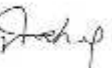






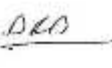
Name: *Ritesh Chitrakar*
Environment SpecialistName: *A. K. S. Shrestha*
Civil / Structural Engineer
*Ritesh*Signature/date: *Ritesh*
DSC04

30 July, 2017

Signature/date:
Contractor

Annex 4: List of participants of Health and Safety orientation provided to contractor representative of IS-01

Orientation on Environment, Health & Safety
Date: 8 Dec. 2017, venue: Sallaighari site office

Sr. No.	Name of participants	Site	Mobile	Signature
1.	Abin Singh	Sallaighari	9849097899	
2.	Umesh Raj Dahal	Social	9841-634046	
3.	Dr. Shrestha	Haramante	9801139974	
4.	Purnam Dahal		9808781607	
5.	Ganesh B. Bishwakarma	Haramante	9829720628	
6.	Sanjeev Panthar	Lab. incharge	9801190402	
7.	Parshu Prasad Chandel	JER-Tikathali	9804405625	
8.	Niraj Marathe <u>Alhaz</u>	Consultant, ACSE	9842557127	
9.	Dhundi Raj Dahal	DSC04	9851101210	
10.	Rakesh Chitrakar	DSC04	9841357206	