



Environmental Monitoring Report

Project Number: 47229-001
November 2015

Period: January 2015 – June 2015

IND: Uttarakhand Emergency Assistance Project

Submitted by

Project Implementation Unit, Uttarakhand Jal Santhan, Jal Bhawan, Dehradun,
Uttarakhand

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Asian Development Bank

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PROJECT IMPLEMENTATION UNIT (PIU)
(Urban Water Supply Sector)
Uttarakhand Emergency Assistance Project (UEAP)
Uttarakhand Jal Sansthan
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Ref: 586/PIU-UEAP/58/2015-16

Dated: 29 October, 2015

To,

The Country Director
South Asia Department,
India Resident Mission (ADB),
4 San Martin Marg, Chankyapuri,
New Delhi 110021, India

Subject: Loan 3065 IND – Uttarakhand Emergency Assistance Project (UEAP)
Regarding submission of Semi-Annual Environmental Monitoring Report (S-AEMR)
for the period of January, 2015 to June, 2015.

Dear Madam,

With reference to above subject and as per ADB's Safeguards Policy Statement 2009, please find herewith enclosed Semi-Annual Environmental Monitoring Report of PIU (Urban Water Supply Sector under UEAP) for the period of January, 2015 to June, 2015 after review of ADB (TA) in Dehradun for your kind review.

Enclosure: Semi-Annual Environmental Monitoring Report (January, 2015 to June, 2015).

Yours Sincerely


(Neelima Garg)
Secretary Appraisal

Copy to:

1. Program Director, PMU (UEAP), SIIDCUL Building, IT Park, Sahasthradara Road, Dehradun.
2. Program Manager, PIU (UWS), Uttarakhand Jal Sansthan, B-Block, Nehru Colony, Dehradun.
3. General Manager (TRM), Uttarakhand Jal Sansthan, B-Block, Nehru Colony, Dehradun.
4. Superintending Engineers Pithoragarh/Chamoli/Tehri/Pauri.
5. Team Leader, M/s Stup Consultants Pvt. Ltd. 99 Old Nehru Colony, Dehradun
6. Mr. Sakib Qadri ADB (TA: Environmental Expert) for kind information.
7. Dr. S. D. Tiwari, Officer (Environment & Resettlement), PIU (UJS), Dehradun



Secretary Appraisal



Government of Uttarakhand

**State Disaster Management Authority
(SDMA)
Uttarakhand Jal Sansthan**

Uttarakhand Emergency Assistance Project (UEAP)

Urban Water Supply Sub-projects

(ADBL loan No:3055-IND)

Second (2nd) Report

**SEMI-ANNUAL ENVIRONMENTAL MONITORING REPORT
(January to June, 2015)**

**Project Implementation Unit
(Urban Water Supply Sector)**

October, 2015

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ABBREVIATIONS

ADB	Asian Development Bank
BOD	Bio Chemical Oxygen Demand
CO	Carbon Mono Oxide
CFE	Consent for Establishment
CH ₄	Methane
CFO	Consent for Operation
DO	Dissolve Oxygen
dB	Decibel
DSC	Design and Supervision Consultant
IA	Implementation Agency
IEE	Initial Environmental Examination
EA	Executing Agency
EIA	Environmental Impact Assessment
EC	Environmental Clearance
EMP	Environmental Management Plan
EMMP	Environmental Management and Monitoring Plan
ESO	Environment and Safety Officer
F-PIU	Field Project Implementation Unit
GoI	Government of India
GoU	Government of Utrakhand
Ha	Hectare
H ₂ S	Hydrogen Sulphide
HDPE	High Density Poly Ethylene
HFL	High Flood Level
Km	Kilometer
Leq	Sound level
Mg	Milligram
MFF	Multitranché Financing Facility
MoEF	Ministry of Environment, Forests and Climate Change
MLD	Million Litter Per day
Mn	Million
M	Meter
Mm	Millimeter
mg/l	Milligram per Liter
m ³	Cubic meter
NAAQM	National Ambient Air Quality Monitoring
NO _x	oxides of Nitrogen
NA	Not Applicable
NOC	No-Objection Certificate
OUR	oxygen uptake rate
O & M	Operation and maintenance
PIU	Project Implementation Unit
PMU	Project Management Unit
PPEs	Personal Protective Equipments
PVC	Poly Vinyl Chloride
PWD	Public Works Department
PUC	Pollution Under Control
RCC	Reinforced Cement Concrete
RoW	Right of Way
RSPM	Respirable suspended particulate matter
RP	Rehabilitation Plan

SEIAA	State Environment Impact Assessment Authority
SPCB	State Pollution Control Board
SS	Suspended Solids
SBR	Sequential Batch Reactor
SPM	Suspended Particulate Matter
SO ₂	sulphur dioxides
SPS	Sfaeguards Policy Statement
ST	Scheduled Tribes
SC	Scheduled Castes
SOP	Standard Operational Procedures
UEAP	Uttarakhand Emergency Assistance Project
UEPPCB	Uttarakhand Environmental Protection and Pollution Control Board
UDD	Urban Development Department
UPJN	Uttarakhand Peya Jal Nigam
UJS	Uttarakhand Jal Sansthan
U.P.	Uttar Pradesh
UPCL	Uttaranchal Power Corporation Limited
WTP	Water Treatment Plant
µg/m ³	Micro Gram Per Cubic Meter
%	Percentage

I. INTRODUCTION

A. Background

1. A major disaster during 15-17th June 2013 resulted in severe damages in several parts of Uttarakhand, which has a mountainous terrain and a fragile geology. Several towns have been washed away by the unprecedented flash floods and landslides, and a large number of houses, public buildings, roads, bridges, urban, rural, and tourism infrastructure, power generation and distribution facilities have been damaged. The impact on the affected population due to the loss of connectivity has been manifold. The State machinery is currently focused on emergency restoration and connectivity works.
2. Based on the request of India, a Rapid Joint Damage and Needs Assessment (RJDNA) was undertaken by Asian Development Bank (ADB) and the World Bank. ADB agreed to assist the Government of India (GOI) with reconstruction and rehabilitation efforts for which the Uttarakhand Emergency Assistance Project (UEAP) has been formulated as a multi-sector emergency loan in sector loan modality. The executing agency (EA) for the UEASP is Government of Uttarakhand (GOU) and State Disaster Management Authority (SDMA). The primary implementing agencies (IA's) is Public Works Department (PWD) for roads, bridges, urban roads, and trekking routes including eco-trails; Department of Tourism (DOT) through Kumaon Mandal Vikas Nigam Limited, and Garhwal Mandal Vikas Nigam Limited for tourism infrastructure, Uttarakhand Civil Aviation Development Authority (UCADA) for helipads; and Uttarakhand Jal Sansthan (UJS) for urban water supply, or any successor hereto. Some other state agencies such as Forest Department are likely to be entrusted with some works under UEASP under these primary IAs.
3. The UEAP will support the Government of India (GoI) and the Government of Uttarakhand (GoU) in their efforts to rehabilitate and reconstruct the damaged water supply system in 9 selected towns of Uttarakhand. The investment program will support: (i) Water supply; and (ii) Planning and design, institutional and policy development, capacity building and creating awareness.
4. The Project Management Unit (PMU) of Uttarakhand Emergency Assistance Project(UEAP) created for implementation of the said project under the Government of Uttarakhand (GoU) and the Project Implementation Units (PIU), Uttarakhand Jal Sansthan (UJS) will be provided with necessary consulting services under the proposed loan to strengthen their project design, management and implementation capabilities including mainly engineering design and construction supervision. The work in this Project is of emergency nature and has to be finished within stipulated time, so as to provide drinking water to affected population. The Executing Agency (EA), State Disaster Management Authority (SDMA) will work closely with the Implementing Agency (IA) Uttarakhand Jal Sansthan
5. Out of the 9 sub-project towns, 6 towns are located in Garhwaland remaining 3 in Kumaon Region have been selected for implementation of Assistance Project. These towns are as follows:(1) Srinagar (2) Devprayag (3) Rudraprayag (4) Gauchar (5)

Karnprayag (6) Uttarkashi (7) Dharchula (8) Kapkot (9) Bageshwar. Location of the project towns are shown in **Figure – 1**.



Figure - 1: Location of project towns

6. To support implementation of the Program, UEAP have engaged STUP Consultants Pvt. Ltd. as Design & Supervision Consultant (DSC). Design and Supervision Consultant (DSC) firm assists Investment Project Management Unit (IPMU) and the respective Investment Project Implementation Units (IPIUs) to undertake necessary surveys and investigations, detailed engineering designs, quantity and cost estimation, preparation of bid documents, procurement activities, preparation of construction drawings, construction supervision including recording measurements, quality control, assisting community awareness and poverty alleviation program associated with the Project.

B. Project & Report Purpose

7. Water Supply sub-projects which are under implementation has been classified by ADB as environmental assessment Category B (some negative impacts but less significant than category A) and the impacts of sub-projects were assessed through Initial Environmental Examination (IEE), prepared according to ADB's Safeguard Policy (SPS, 2009).
8. The present "Environment Monitoring Report" has been prepared for the period of January to June, 2015 to describe the implementation of the mitigation measures and monitoring recommended in the IEE.

C. Project Profile

9. Upto 30th June, 2015, the works contracts agreements have been signed for all 9 sub-projects and both the Contractors (M/s KCPL & M/s R. K. Engineers) have been mobilized for all 9 sub-projects.
10. List of the sub-projects and their status is given hereunder:

Table - 1: Sub-Projects status under UEAP-UWS (Upto 30th June, 2015)

Sl. No.	Towns	Package Code	Sub-projects Description	Status of Work
1	Kapkot	UK/UEAP-WSS-KU/01-Lot 01	Rehabilitation and reconstruction of water scheme of Kapkot Town	<ol style="list-style-type: none"> 1. Base line environmental data generated by the contractor. 2. One time environmental monitoring done during construction stage. 3. Design and drawings for civil and mechanical works prepared. 4. Confirmatory survey for Pipelines done. 5. Construction of Infiltration well. 6. Procurement of pipes.
2	Bageshwar	UK/UEAP-WSS-KU/01-Lot 02	Rehabilitation and reconstruction of water scheme of Bageshwar Town	<ol style="list-style-type: none"> 1. Base line environmental data generated by the contractor. 2. One time environmental monitoring done during construction stage. 1. Design and drawings for civil and mechanical works prepared. 2. Confirmatory survey for Pipelines done. 3. Construction of Infiltration well. 4. Procurement of pipes.
3	Dharchula	UK/UEAP-WSS-KU/01-Lot 03	Rehabilitation and reconstruction of water scheme of DharchulaTown	<ol style="list-style-type: none"> 1. Base line environmental data generated by the contractor. 2. One time environmental monitoring done during construction stage. 3. Design and drawings for civil works prepared. 4. Confirmatory survey for Pipelines done. 5. Procurement of pipes. 6. Damage repair in source. 7. Construction of GLSRs in Progress.
4	Rudraprayag	UK/UEAP-WSS-GW/01-Lot 01	Rehabilitation and reconstruction of water scheme of Rudraprayag Town	<ol style="list-style-type: none"> 1. Base line environmental data generated by the contractor. 2. Confirmatory survey for Pipelines done.
5	Karnprayag	UK/UEAP-WSS-GW/01-Lot 02	Rehabilitation and reconstruction of water scheme of Karanprayag Town	<ol style="list-style-type: none"> 1. Base line environmental data generated by the contractor. 2. Confirmatory survey for Pipelines. 3. Construction of Infiltration well. 4. Procurement of pipes. 5. Excavation for foundation of GSLR and Office Building is in Progress.
6	Gauchar	UK/UEAP-WSS-GW/01-Lot 03	Rehabilitation and reconstruction of water scheme of Gauchar Town	<ol style="list-style-type: none"> 1. Base line environmental data generated by the contractor. 2. Confirmatory survey for Pipelines. 3. Procurement of pipes. 4. Dismantling of old Office Building is in Progress.

Sl. No.	Towns	Package Code	Sub-projects Description	Status of Work
				5. Excavation for protection wall at source works in progress
7	Uttarkashi	UK/UEAP-WSS-GW/01-Lot 04	Rehabilitation and reconstruction of water scheme of Uttarkashi Town	<ol style="list-style-type: none"> 1. Base line environmental data generated by the contractor. 2. Design and drawings for civil and mechanical works being prepared. 3. Confirmatory survey for Pipelines done. 4. Test bore for Tubewell construction in progress. 5. Procurement of pipes.
8	Devprayag	UK/UEAP-WSS-GW/01-Lot 05	Rehabilitation and reconstruction of water scheme of Devprayag Town	<ol style="list-style-type: none"> 1. Base line environmental data generated by the contractor. 2. Confirmatory survey for Pipelines done.
9	Srinagar	UK/UEAP-WSS-GW/02	Rehabilitation and reconstruction of water scheme of Srinagar Town	<ol style="list-style-type: none"> 1. Base line environmental data generated by the contractor. 2. Design and drawings for civil and mechanical works being prepared. 3. Confirmatory survey for Pipelines. 4. Works for 500 KL GLSR and 1000KL GLSR 5. Procurement of pipes. 6. Excavation works for office building.

11. **Table –2** shows the status of the sub-project implementation, starting date, schedule date of completion and physical progress.

**Table - 2: Status of Sub-projects Implementation under UEAP-UWS
(Upto 30th June, 2015)**

Sl. No.	Location	Component, name of the sub-project (Code No.)	Starting date of Implementation	Projected months of completion (as per Work order)	Schedule date of completion (Extended date of completion)	Physical progress (%) as on 30.06.2015
1	Kapkot	Supply, Laying,	1.11.2014	18 months	31.05.2016	28.0
2	Bageshwar	Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. (UK/UEAP-WSS-KU/01)	1.12.2014	18 months	31.05.2016	3.75
3	Dharchula		1.12.2014	18 months	31.05.2016	23.54

Sl. No.	Location	Component, name of the sub-project (Code No.)	Starting date of Implementation	Projected months of completion (as per Work order)	Schedule date of completion (Extended date of completion)	Physical progress (%) as on 30.06.2015
4	Rudrapryag	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. (UK/UEAP-WSS-GW/01)	19.01.2015	18 months	18.07.2016	0.0
5	Karnprayag		19.01.2015	18 months	18.07.2016	7.22
6	Gauchar		19.01.2015	18 months	18.07.2016	10.0
7	Uttarkashi		19.01.2015	18 months	18.07.2016	1.0
8	Devprayag		09.03.2015	18 months	08.09.2016	0.0
9	Srinagar	Construction of low level pump house, installation of raw water and clear water pumping machinery, Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains, Rehabilitation of WTP's Design, Supply, Construction and Commissioning of Infiltration Wells, Construction of Sump and Electrical and Instrumentation works at Srinagar (UK/UEAP-WSS-GW/02)	19.01.2015	18 months	18.07.2016	10.0

II. IMPLEMENTATION PROGRESS

A. Major Works and Progress

12. Upto 30th June 2015, the construction work have been started at 7 sub-project locations under UEAP-UWS except Devprayag and Rudraprayag sites. **Table – 3** shows the work progress status. Work scope for the package for which work order has been issued is given hereunder. Monitoring and reporting on Environmental Safeguards have been started for 7 sub-projects.

Table - 3: Major Works under Sub-projects and Progress (Upto 30th June, 2015)

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lots	Type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
Kapkot(UK/UEAP- WSS-KU/01 - Lot 01)	Construction of Infiltration well (IW), pump house over IW, Laying of Rising mains and appurtenant works.	<ul style="list-style-type: none"> Supply, Laying, Jointing, Testing & Commissioning of 125 mm diameter MSERW lined Rising Main Design, Supply, Erection of Structural Steel Works for Bridge Crossing Design, Supply, Installation, Testing, Commissioning of Electro Chlorinator Design, Supply, Installation, Testing, Commissioning of Electromagnetic Flow Meter Design, Supply, Installation, Testing, Commissioning of Electro Mechanical Works including trial run for a period of 3months Design, Supply, Installation, Testing, Commissioning of SCADA / Instrumentation works Design, Construction, Testing, Commissioning, Trial Run for a period of 3 months of 1.4 MLD Infiltration well at Saryu river including dewatering and diversion of water. Providing and Construction of pump house over Infiltration Well or as required suitable for Pump House. 	<ul style="list-style-type: none"> Construction of infiltration well and pump house in progress- Excavation work for PCC & Raft Completed. RCC wall in progress Confirmatory survey for pipe laying completed. 	Nil	Strict application of mitigation measures	-
Bageshwar (UK/UEAP-WSS- KU/01 - Lot 02)	Demolition of existing intake well, Construction of new infiltration well, replacement of Rising mains, rehabilitation of	<ul style="list-style-type: none"> Supply, Laying, Jointing, Testing & Commissioning of 150mm dia MSERW lined Rising Main including dismantling of existing 80 mm dia GI Rising Main and hand over to Jal Sansthan at their 	<ul style="list-style-type: none"> Test bore for Infiltration well is completed and found to be 20 lpm/sqm. Excavation of 	Shifting of location of infiltration well at 950 m upstream		

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lots	Type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
	WTP, pumps and related electrical, mechanical works,	<p>store</p> <ul style="list-style-type: none"> • Demolition of existing Raw and Clear water Pumping set including all electrical equipments cable etc. at KathayatBada. • Design, Supply, Installation, Testing, Commissioning of Electro Mechanical works including trial run for a period of 3 months at different locations • Instrumentation work at <ul style="list-style-type: none"> (i) Proposed Infiltration Well Jalkal (ii) WTP at Thakurdwara (iii) WTP at Kathayatbada • Design, Construction, Testing, Commissioning, Trial Run for a period of 3 months of Infiltration Well 1.34 Mld including diversion and dewatering of water at Jalkal Water Works. • Provide & Construction of Pump House over Infiltration Well or as required suitable for Pump House • Rehabilitation of WTP at Thakurdwara including reconstruction of Alum Godam • Demolition of old Intake Structure/Electrical/Mechanical items at Jal Sansthan Water Works old damaged AalumGodown and disposal of unserviceable material 	Infiltration well completed upto 6m below GL. The work stopped as the well got inundated with rain water.	IEE report need to be revised based on the revised scope of work.		

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lots	Type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
Dharchula (UK/UEAP-WSS- KU/01- Lot 03)	Damage repair in source works, installation of Uttaranchal Koop, construction of horizontal flow Roughing filter, Demolishing of old damaged tanks & construction of new tanks.	<ul style="list-style-type: none"> Supply, Laying, Jointing, Testing & Commissioning of Distribution & Gravity Mains including valves & valve chambers. Demolition of Stone Masonry CWR & Steel CWR Construction of Uttaranchal Koop. Construction of Intake Chamber/Source Work Design, Construction, Testing, Commissioning & Trial Run for a period of 3 months of Horizontal Flow Roughing Filter of 1.728 MLD. Design, Construction, Testing, Commissioning of RCC CWRs 	<ul style="list-style-type: none"> Construction of Intake Chamber (Ghatkhola) 1.5X1.5X 1.5 M- completed Construction of Uttaranchal Koop – under progress Construction of Horizontal flow roughing filter 1.728 mld - Dismantling of old structure completed Dismantling of old GLSRs completed 50 KL GLSR at Ghatkhola- completed and commissioned 25 KL GLSR at Mankhet completed. 	Nil	Strict application of mitigation measures	-
Rudraprayag (UK/UEAP-WSS- GW/01- Lot 01)	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc.	<ul style="list-style-type: none"> Supply, Laying, Jointing, Testing & Commissioning of MSERW lined Gravity Transmission Main. Supply, Installation of 3 No. Uttaranchal koops. Rehabilitation of RCC Intake Chambers Construction of RCC bridge to carry the pipeline across the stream. Replacement / Supply & Laying of pipelines damaged due to flood. Construction of Office Building 	<ul style="list-style-type: none"> Confirmatory survey of Rising main completed 	Nil	Strict application of mitigation measures	-

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lots	Type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
		<ul style="list-style-type: none"> • Supply and Installation of Sluice Valves, Scour Valves and Air Valves • Providing, Fixing of RCC Valve Chamber for housing valves • Supply and Installation of Bulk Water Meters • Road Restoration works. 				
Karnprayag (UK/UEAP-WSS- GW/01- Lot 02)	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc.	<ul style="list-style-type: none"> • Supply, Installation of 1 No. of Infiltration Well. • Rehabilitation of RCC Intake Chambers. • Supply, Laying, Jointing, Testing and Commissioning of MSERW Pipe of 200mm (ID) dia, 6mm thick for a length of 6000m from Well Site (0 chainage) to ITI Colony Proposed Tank (6000 chainage). • Construction of RCC Bridge to carry the pipeline across the stream at different locations. • Construction of CWR of 500KL capacity at Pujari Gaon location, 150 KL at GGIC and 35KL CWR at Taxi Stand (Near Petrol Pump). • Replacement / Supply & Laying of pipelines damaged due to flood. • Construction of Office building. • Supply and Installation of Sluice Valves, Scour Valves and Air Valves • Providing, fixing of RCC valve chamber for housing valves • Supply and Installation of Bulk Water Meters 	<ul style="list-style-type: none"> • Confirmatory survey for pipeline completed • Pipe line excavation work for rising main is in progress: 3500m completed • Dismantling of old office building-completed • Excavation for foundation is in progress of 500KL GLSR • Excavation for foundation in hard rock is in progress 	Nil	Strict application of mitigation measures	

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lots	Type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
		<ul style="list-style-type: none"> Road Restoration works. Design, Supply, Installation, Testing, Commissioning of Electromechanical works including trial run for a period of 3 months at different locations Instrumentation work at Proposed Infiltration Well 				
Gauchar (UK/UEAP-WSS- GW/01- Lot 03)	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc.	<ul style="list-style-type: none"> Supply, Installation of 1 No. of Infiltration Well. Rehabilitation of RCC Intake Chambers. Supply, Laying, Jointing, Testing and Commissioning of MSERW pipe of 200mm dia, 6mm thick for a length of 3000m from airport gate (0 chainage) to 100 kl GLSR (Panai). Replacement / supply & Laying of pipelines damaged due to flood. Construction of Office building as the existing office building was partly damaged. Supply and Installation of Sluice Valves, Scour Valves and Air Valves Providing, fixing of RCC valve chamber for housing valves Supply and Installation of Bulk Water Meters Road Restoration works 	<ul style="list-style-type: none"> Confirmatory survey for pipeline completed Excavation completed for office building. PCC is in progress for office building. The location for 100KL GLSR is changed and excavation is completed 	Change location of GLSR to near Panai village. IEE report need to be revised based on the revised scope of work.	Strict application of mitigation measures	
Uttarkashi (UK/UEAP-WSS- GW/01- Lot 04)	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design,	<ul style="list-style-type: none"> Construction of RCC Cross Wall for a length of 20 meters and height of 1 Meter Constructions of Intake Chamber of size 1.0 M X 1.0 M X 1.0 M. 	<ul style="list-style-type: none"> No physical work. Confirmatory survey in progress Test bore for tube 			

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lots	Type of works continued at present	Expected changes from approved scope	Fulfillment objectives- Type remedial measures needed	of of Key assumptions and risks that affect attainment of the objectives
	Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc.	<ul style="list-style-type: none"> • Supply and Laying of 250mm dia MS ERW Pipeline for a length of 150Meters from the outlet of intake chamber of Kohari Gad source. • Supply and Laying of 200mm dia MS ERW Pipeline for a length of 1000 Meters for replacing existing damaged 200mmdia CI pipeline feeding to Gufiyara WTP. • Supply and Laying of 250mm dia MS ERW Pipeline for a length of 650 Meters downstream of WTP at Jangara. • Supply and Laying of 200mmdia MS ERW Pipeline for a length of 50 Meters downstream of Chiwa Gad Stream Junction. • Supply and Laying of 200mm dia MS ERW Pipeline for a length of 130 Meters below the bed across Assi Ganga River before confluence point (Sangam) of rivers Assi Ganga and Bhagirathi including concrete encasing for pipeline. • Supply and Laying of 100mmdia GI Pipeline for a length of 1500 Meters from Gufiyara WTP CWR to Tiloth and 500 Meters form Gufiyara CWR to Batwadi WTP CWR. • Supply and Laying of 125mmdia MS ERW Pipeline for a length of 800 meters and 100mm dia GI Pipeline for a length of 1200 Meters from Gufiyara 	well completed			

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lots	Type of works continued at present	Expected changes from approved scope	Fulfillment objectives- Type remedial measures needed	of of Key assumptions and risks that affect attainment of the objectives
		<p>WTP CWR to Gyansu.</p> <ul style="list-style-type: none"> • Sluice Valves, Scour Valves and Air Valves are proposed to be installed. • RCC valve chambers and thrust blocks/anchor blocks are proposed to be constructed. • Drilling of new Tube wells (2 nos.) through Dual rotary method of 400mm dia for a depth of 45 meter including providing and fixing ERW MS casing pipe for a depth of 20 meter. • Construction of 2 Nos. RCC framed Pump Houses of 20 Sqm area each at RamleelaMaidan. • Rising Main of ERW MS 300mm dia pipeline for a length of 1300 meter form RamleelaMaidan to 350 KL CWR at Gufiyara WTP. • Supply and Fixing DI Non-return valve, CI Bulk Water Meter, DI Sluice Valve at outlet pipeline from Tube Well inside each Pump House at RamleelaMaidan. • Supply and fixing DI Scour valve for 300mm dia rising main near RamleelaMaidan. • Supply and Fixing DI Double orifice Air valve on 300mm dia Rising Main. • Construction of RCC valve Chambers for Scour valve and Air Valves. • Rehabilitation of 0.67 MLD WTP at Batwadi Road • Rehabilitation of 1.63 MLD WTP at Gufiyara 				

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lots	Type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
		<ul style="list-style-type: none"> Rehabilitation of 4.58 MLD WTP at Jangara Electrical Works 				
Devprayag (UK/UEAP-WSS- GW/01- Lot 05)	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc.	<ul style="list-style-type: none"> Construction of RCC Cross Walls at Sources. Providing and fixing Uttaranchal Koop. Supply and Laying of Transmission Mains. Construction of 50 kl GLSR New Tahsil. Supply and Laying of Distribution Pipelines. Supply and Installation of Valves and Water Meters. Construction of RCC valve Chambers. Restoration of Roads. Construction of Office Building near Tahsil. 	<ul style="list-style-type: none"> No Physical work Confirmatory survey completed 	IEE report need to further revise after getting approval from the MoEFCC for diversion of forest land for non-forest use. (NOC is in progress).		
Srinagar (UK/UEAP-WSS- GW/02)	Construction of low level pump house, installation of raw water and clear water pumping machinery, Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains, Rehabilitation of WTP's Design, Supply, Construction and Commissioning of Infiltration Wells, Construction of Sump and Electrical and	<ul style="list-style-type: none"> Construction of RCC Retaining Wall for Pump House. Design and Construction of RCC framed low level pump house. Providing and fixing trolley / lifting arrangement for low level pump house. Replacement of damaged raw water Pumps and Motors. Alteration of Existing Jack Well as high level pump house. Supply and Installation of New Raw Water Pumps in High level Pump House (Existing Jack Well). Supply and Laying Raw Water Transmission Mains. 	<ul style="list-style-type: none"> Pipe line excavation work is in progress with a changed alignment, Site development work for 500kl GLSR is completed. Excavation in hard rock is in progress for 1000KI GLSR Dismantling of old office building completed 	Alignment of Rising Main changed. Construction of High level Raw Water Pump House deleted at Srinagar Rehabilitation of Clear Water Pump House included. IEE report	Strict application of mitigation measures	

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lots	Type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
	Instrumentation works	<ul style="list-style-type: none"> • Rehabilitation of 6 MLD Water Treatment Plant. • Rehabilitation of 3.75 MLD Water Treatment Plant. • Rehabilitation of 2.0 MLD Water Treatment Plant. • Design and Construction of RCC framed structure for Chlorine room at existing WTP premises. • Design, Supply and Installation of Chlorination system by Chlorine gas with Vacuum type Chlorinators for all three WTP's • Supply and Installation of Clear Water Pumps in 6 MLD & 3.75 MLD WTP Clear water Pump Houses. • Supply and installation of Submersible pumps for infiltration well. • Supply and laying Clear Water Transmission Main from Proposed Pump House. • Supply and installation of clear water pumps at infiltration well site. • Infiltration Well Site Protection Work by constructing RCC gravity retaining wall. • Supply and Laying Clear Water Transmission Mains from existing WTP to various reservoirs. • Supply and Laying of distribution pipelines with pipe appurtenances. • Providing and Fixing House Service Connections. • Road Restoration Works. 	<ul style="list-style-type: none"> • Excavation is in progress for office building. • Work commenced for infiltration well but presently filled up with water. Works not possible during monsoon/till the level of water in the river recedes 	need to be updated based on revised scope of work.		

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lots	Type of works continued at present	Expected changes from approved scope	Fulfillment objectives- Type remedial measures needed	of of Key assumptions and risks that affect attainment of the objectives
		<ul style="list-style-type: none"> • Design and Construction of 500KL RCC Sump and Clear Water Pump House at Infiltration Well site. • Design and Construction of Infiltration Well near Govt. ITI college. • Water Supply Rehabilitation and Augmentation Scheme – Srinagar and Pauri • Design and Construction of Pump house over infiltration well. • Design and Construction of New Clear Water Storage Reservoirs of 500KL & 1000KL Capacities. • Design and Construction of Office Cum Staff Quarters building at existing WTP premises. • Design, supply, installation, testing, commissioning of Electro-mechanical works including trial run for a period of 3 months. • Design, Supply, Installation, Testing, Commissioning of Instrumentation, Automation and SCADA works at WTP premises and proposed Infiltration Well site including trail run for a period of 3months. 				

B. Compliance of Safeguards Loan Covenants

13. The status of compliance of ADB's major Loan Covenants related to Safeguard issues is shown below:

Sl. No. as per Loan Agreement	Program Specific Covenants	Status / Issues
Environment		
9	The Borrower shall ensure or cause the EA and IAs to ensure that the preparation, design, construction, implementation, operation and decommissioning of the Project facilities comply with (i) all applicable laws and regulations of the Borrower and State relating to environment, health, and safety; (ii) the Environmental Safeguards of ADB; and (iii) all measures and requirements set forth in the EARF, EIA/ IEE as applicable, and the EMMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.	Under compliance Documents are prepared by complying all relevant State and National Laws, Safeguard Policy Statement (SPS 2009) of ADB, Environment Assessment Review Framework (EARF). Initial Environmental Examination (IEE), Environment Management Plan (EMP) report prepared and approved by ADB. In case of any change of scope and locations IEE will be revised. All measures and requirements as prescribed in IEE and EMP will be considered during implementation. Corrective or preventive action plans which will be reflected in Environment Monitoring Report and project implementation authority will be taken care.
Human and Financial Resources to Implement Safeguards Requirements		
12	The Borrower shall ensure or cause the EA and relevant IA to ensure (a) that all necessary budgetary and human resources to fully implement the EMMP as required, are made available; and (b) designates at least one official each to supervise implementation of the EMMP	Under compliance Budgetary provisions have been included in EMPs One officer designated to supervise implementation of the EMMP
Safeguards – Related Provisions in Bidding Documents and Works Contracts		
13	Borrower shall ensure or cause the EA and each IA to ensure that all bidding documents and contracts for Works contain provisions that require contractors to: (a) comply with the measures and requirements relevant to the contractor set forth in the EIA/IEE, the EMMP, the RPs and any IPP (to the extent they concern impacts on affected people during construction), and any corrective or preventative actions set out in a Safeguards Monitoring Report; (b) make available a budget for all such environmental and social measures; (c) provide the relevant IA with a written notice of any unanticipated environmental, resettlement or indigenous peoples risks if any, or impacts that arise during construction, implementation or operation of the project that were not considered in the EIA/IEE, the EMMP, and the RP or the IPP if any;	Under compliance (a) Approved IEEs, EMPs and RPs are attached in Bidding documents. In case of any change of scope, revised IEEs, EMPs will be prepared and corrective measures will be disclosed to contractor and same will be reflected in the "Environment Monitoring Report" (b) All IEEs indicate budgetary provisions for implementation of EMPs (c) With the development of sub project and implementation, in case of additional impacts/risks due to change in scope/area, that will be reflected in the revised IEEs, EMPs and Environment Monitoring Report and accordingly project Executing Agency will inform

Sl. No. as per Loan Agreement	Program Specific Covenants	Status / Issues
	<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) Fully reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.</p>	<p>theConstructionAgency for taking relevant corrective measures.</p> <p>(d) Haul roads will be marked properly (by avoiding residences and agricultural land) before commencement of transportation of materials.</p> <p>(e) Pathways, land which are likely to be affected for a short period during implementation of the sub project will be restored by concerned construction agency before acceptance of the work. Restoration status will be reflected in post construction monitoring report</p>
Safeguards Monitoring and Reporting		
14	<p>The Borrower shall ensure or cause the EA and each IA to ensure the following:</p> <p>(a) submit semi-annual Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission;</p> <p>(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/EIA, the EMMP, the RPs or any IPP, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan; and</p> <p>(c) report any breach of compliance with the measures and requirements set forth in the EMMP, the RPs or any IPP promptly after becoming aware of the breach.</p>	<p>Under compliance</p> <p>(a) This is 2nd Semi-annual Environment Monitoring Report, prepared for the period January to June, 2015. Next semi-annual report is due on 31st December, 2015.</p> <p>(b) With the development of project and implementation, in case of additional impacts/risks due to change in scope/area, will be reflected in revised IEEs, EMPs and accordingly Executing Agency (EA) will inform theADB along with corrective action plan which will be reflected in the Monitoring Report.</p> <p>(c) In case of any breach of compliance with the measures and requirements set forth in the EMP; EA will promptly inform ADB and suitable corrective action plan will be planned.</p>
Prohibited List of Investments		
15	<p>The Borrower shall ensure or cause the EA and each IA to ensure that no proceeds of the Loan are used to finance any activity included in the list of prohibited investment activities provided in Appendix 5 of the SPS.</p>	<p>Complied</p> <p>For selection of sub projects there is no violation of prohibited investment activities as per ADB SPS (2009) Appendix 5.</p>
Labor Standards		
16	<p>The EA through each IA shall ensure that civil works contracts under the Project follow all applicable labor laws of the Borrower and State and that these further include provisions to the effect that contractors; (i) carry out HIV/AIDS awareness programs for labor and disseminate information at worksites on risks of sexually transmitted diseases and HIV/AIDS as part of health and safety measures for those employed during construction; and (ii) follow and implement all statutory provisions on labor</p>	<p>Complied in document and to be complied during implementation</p> <p>Provision are included (as per EMP & BID document) to carry out HIV/AIDS awareness programs for construction contractor, application of all relevant labour laws for health and safety including child labour law and engagement of local labours (preferably from economically backward group) covering women labours.</p>

Sl. No. as per Loan Agreement	Program Specific Covenants	Status / Issues
	(including not employing or using children as labor, equal pay for equal work), health, safety, welfare, sanitation, and working conditions. Such contracts will also include clauses for termination in case of any breach of the stated provisions by the contractors.	In case of any breach of provision, necessary corrective measures as per contract clauses shall be taken. All activities including awareness programs will be reflected in "Monitoring Report" (Annexure Nos. – 2, 8 & 9).

C. Environmental and Social Organization and Management along with Implementation Arrangements

14. The institutional arrangements specify the arrangements for the implementation of environmental provisions of the proposed sub-projects. The Executing Agency (EA), State Disaster Management Authority (SDMA) will work closely with the Implementing Agency (IA) Uttarakhand Jal Sansthan for effective implementation of environmental safeguards related requirements of the sub- projects. The institutional arrangements and responsibilities are detailed below.
15. The sub-project will be implemented and monitored by Uttarakhand Jal Sansthan as Implementing agency and implemented through its Field PIU's supported by DSC (also working as Engineer) and overall management support shall be provided by PMU, UEAP.
16. The Safeguard Staff of UEAP SDMA (EA) in PMU & IA will monitor the implementation of environmental covenants with assistance of Engineer (DSC).
17. UEAP SDMA (EA) shall be responsible for ensuring compliance to environmental requirements of the ADB as well as central/state governments and reporting the same to ADB. A relevant portion of EMMP will be a part of contract with the civil works contractors engaged for execution of the works. The primary responsibility of implementation of EMMP is of the IA during pre-construction and operation and maintenance phases; and of the civil works contractor during the construction phase as defined in the EMMP. The responsibility of supervision of EMMP implementation is of the DSC; and it would guide the IA and the civil works contractors in this regard. DSC with IA and EA, UEAP will act as monitoring agency as delegated in EMMP. All applicable statutory environmental clearances, consents, and/or permits (at national, state and local levels) as required for the implementation of the subproject would be obtained by the IA or by the civil works contractor in line with India's national/state/local laws and regulations, and in accordance with ADB's SPS 2009 requirements. Redressal of grievances shall be the responsibility of UEAP SDMA (EA). Apart from the mechanism for the grievances receiving and redressal at the level of EA, the provision shall be kept in the EMP of the subprojects wherein the contractor will depute one Environmental Safeguard Officer who shall be responsible for implementation of EMP, reporting and grievance redressal on day-to-day basis. The complaints received at the level of contractor shall be recorded on the Complaints Register and the same shall be forwarded to the DSC (Engineer of the

Contract) within 48 hours along with the details of action taken to redress the grievance. The Team Leader of DSC shall immediately try to resolve the issues and forward the details to the FPIU / IA. If the action taken by Contractor and DSC is found to be inadequate, then necessary instructions shall be issued by the FPIU/IA for implementation of rectification measures.

III. ENVIRONMENTAL PROCEDURE REVIEW

A. Environmental Legal Requirements– Environmental Legislation and Pollution Control Acts

18. The Government of India has formulated various policy guidelines; acts and regulations aimed at the sustenance of environment in general, which are briefly summarized and few applicable acts with the sub-projects are described in the following sub-sections.

Sl. No.	Sources	Legislation
1	EIA Notification	The Ministry of Environment and Forests has revised the EIA notification, 1994, and issues the revised EIA notification on 14 th September 2006
2	Environment	The Environment (Protection) Act, 1986
3	Forest/ Tree resources	The Forest (Conservation) Act, 1980
4	Water Pollution	The Water (Prevention and Control of Pollution) Act, 1974, as amended in 1988
5	Air Pollution	The Air (Prevention and Control of Pollution) Act, 1981, as amended by Amendment Act, 1987
6	Noise Pollution	The Noise Pollution (Regulation and Control) Rules, 2000
7	Public Liability	The Public Liability Insurance Act, 1991 The Public Liability Insurance Rules, 1991
8	Conservation, construction and reuse in and around the protected monuments	The Ancient Monuments and Archaeological Sites and Remains Act, 1958, and the rules, 1959
9	Hazardous Waste	<ul style="list-style-type: none"> ➤ Hazardous Waste (Management and Handling) Rules, 1989 ➤ Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 ➤ Emergency Planning Preparedness and Response for Chemical Disasters Rules, 1995 ➤ Hazardous Microorganisms and Genetically Modified Organisms (Manufacture, Use Import Expert and Storage) Rules, 1999
10	Use and Management of Explosive	The Explosives Act, 1884 and The Explosives Rules, 1983

19. Prominent Acts are discussed below.

❖ ***THE ENVIRONMENT PROTECTION ACT, 1986 AND THE EIA NOTIFICATION, 1994***

The Environmental (Protection) Act, 1986 is the umbrella legislation providing for the protection of environment in the country. This Act provided for the Environment (Protection) Rules, which have been formulated under the act “The Environmental Impact Assessment Notification, 1994 and the Amendments / Revised EIA notification on 14th September 2006”.and Year 2009.

❖ ***THE WATER (PREVENTION AND CONTROL OF POLLUTION) ACT 1974 AS AMENDED IN 1988 AND AIR (PREVENTION AND CONTROL OF POLLUTION) ACT, 1981 AS AMENDED BY AMENDMENT ACT, 1987***

The water (Prevention and Control of Pollution) Act, 1974 resulted in the establishment of the Central and State level Pollution Control Boards whose responsibilities include managing water quality and effluent standards, as well as monitoring water quality, prosecuting offenders and issuing licenses for construction and operation of certain facilities. The SPCB is also empowered to set air quality standards and monitor and prosecute offenders under the air (Prevention and Control of Pollution) Act, 1981.

❖ ***THE NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000, AS AMENDED***

Since the subproject corridor/ area is located within the city, the construction activity and use of heavy machinery and vehicles may increase the ambient noise levels during the construction phase. It is considered necessary to regulate and control noise producing and generating sources with the objective of maintaining the ambient air quality standards in respect of noise. The occupier of subprojects have to take measures for abatement of noise pollution ensuring that the existing noise levels do not exceed the standards specified under the Noise Pollution (regulation and control) rules, 2000, as amended.

❖ ***THE FOREST (CONSERVATION) ACT, 1980***

The Forest (Conservation) Act, 1980 pertains to the cases of diversion of forest area and felling of roadside plantation. Depending on the size of the tract to be cleared, clearances are applied for at the following levels in the governments:

- If the area of forests to be cleared or diverted exceeds 20 ha (or, 10ha in hilly area), the prior permission of the Central Government is required;
- If the area of forest to be cleared or diverted is between 5 to 20 ha, the Regional Office of Chief Conservator of Forests is empowered to approve;
- If the area of forest to be cleared or diverted is below or equal to 5 ha, the State Government can give permission;
- and If the area to be clear-felled has a forest density of more than 40%, permission to undertake any work is needed from the Central Government, irrespective of the area to be cleared.

20. The specific requirements to ensure compliance by these components and sub-projects are shown in **Table - 4**.

Table 4: Action required ensuring compliance with National Environmental Laws

Component	Applicable Legislation	Compliance	Action Required
Water Treatment Plant (WTP)	Water (Prevention and Control of Pollution) Act 1974	Consent to Establish (CTE) and Consent to Operate (CTO) from Government of Uttarakhand	Based on project review and site inspection, Uttarakhand Environmental Protection and Pollution Control Board (UEPPCB) provide CTE before construction, and stipulate the disposal standards to be met during operation. After completion of construction, Consent to Operate (CTO) will be issued confirming compliance with the CTE conditions, if any
		Renewal of CTO during operation of Water Treatment Plant (WTP)	Based on the performance of the WTP and its compliance with the disposal standards CTO to be renewed every year.

B. Compliance with Environmental Regulations

21. From the environmental regulation point of view, out of 9 sub-projects, 4 sub-projects i.e. Srinagar, Bageshwar, Uttarkashi requires Consent to Establish / Operate for existing Water Treatment Plants from UEPPCB and Devprayag subproject requires diversion of forest lands per state and national rules for clearances and consents. Necessary action for obtainance of statutory clearances i.e. CTO and Forest clearance is being taken by IA water supply.
22. Clearance status for sub-projects is given in **Table – 5** below.
23. Environmental compliance status for ongoing 9 sub-projects are enclosed in **Annexure – 1**. While the Photo illustration on site features, trainings on safety measures, implementation of EMMP as well as on Environmental Monitoring at Pre-Construction and Construction Stages are given in **Annexure – 2**.

**Table – 5: Present Status of Environment, Forest & Other Clearances
(Upto 30 June, 2015)**

Work (Package No.)	Applicable Legislation/ Type of clearance	Subject / Issue	Clearance given by and date	Remarks/ Action needed
Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar&Dharchula (UK/UEAP-WSS-KU/01) <u>Lot 02: Bageshwar</u>	Water (Prevention and Control of Pollution) Act. 1974 Consent to Establish (CTE) for rehabilitation of WTP from Uttarakhand Environmental Protection and Pollution Control Board (UEPPCB) at Dehradun Consent to operate will be required before operation Online application submitted for Consent to Establish (CTE) for rehabilitation work of WTP	Consent to Establish (CTE) for rehabilitation of WTP	-	Existing Water Treatment Plant does not have Consent to Operate under Water (Prevention and Control of Pollution) Act, 1974 and amendments. Ref. to discussion with Pollution Control Board it emerges that there is no fixed requirement for consent to establish for rehabilitation of WTP, if EA needs consent UEPPCB can issue consent against application and submission of fees
Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Rudraprayag, Karnprayag, Gauchar, Uttarkashi&Devprayag (UK/UEAP-WSS-GW/01) <u>Lot 04: Uttarkashi</u> <u>Lot 05:Devprayag</u>	Water (Prevention and Control of Pollution) Act. 1974 Consent to Establish (CTE) for rehabilitation of WTP from Uttarakhand Environmental Protection and Pollution Control Board (UEPPCB) at Dehradun Consent to operate will be required before operation Online application submitted for Consent to	Consent to Establish (CTE) for rehabilitation of WTP	-	Existing Water Treatment Plant does not have Consent to Operate under Water (Prevention and Control of Pollution) Act, 1974 and amendments. Ref. to discussion with Pollution Control Board it emerges that there is no fixed requirement for consent to establish for rehabilitation of WTP, if EA needs consent UEPPCB can issue consent against application and submission of fees

Work (Package No.)	Applicable Legislation/ Type of clearance	Subject / Issue	Clearance given by and date	Remarks/ Action needed
	Establish (CTE) for rehabilitation of WTP at Uttarkashi			
	As per "The Forest (Conservation) Act, 1980" online application submitted to DFO for acquisition of forest land tree felling	Forest land acquisition (0.36 ha along with removal of 19 trees) for construction of office building and CWR at Devprayag	-	As per the Forest (Conservation) Act, 1980, the proposal has been prepared and submitted by the User Agency (UJS Devprayag) to the Nodal Office. The process of approval is in progress.
Construction of low level pump house, installation of raw water and clear water pumping machinery, Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains, Rehabilitation of WTP's Design, Supply, Construction and Commissioning of Infiltration Wells, Construction of Sump and Electrical and Instrumentation works at Srinagar (UK/UEAP-WSS-GW/02)	Water (Prevention and Control of Pollution) Act, 1974 Consent to Establish (CTE) for rehabilitation of WTP from Uttarakhand Environmental Protection and Pollution Control Board (UEPPCB) at Dehradun Consent to operate will be required before operation Online application submitted for Consent to Establish (CTE) for rehabilitation work of WTP.	Consent to Establish (CTE) for rehabilitation of WTP	-	Existing Water Treatment Plant does not have Consent to Operate under Water (Prevention and Control of Pollution) Act, 1974 and amendments. Ref. to discussion with Pollution Control Board it emerges that there is no fixed requirement for consent to establish for rehabilitation of WTP, if EA needs consent UEPPCB can issue consent against application and submission of fees
For all packages under UEAP- UWS UK/UEAP-WSS-KU/01 UK/UEAP-WSS-GW/01 UK/UEAP-WSS-GW/02	Water (Prevention and Control of Pollution) Act, 1974. The Air (Prevention and Control of Pollution) Act, 1981, as amended by Amendment Act, 1987.	-	-	During implementation of project compliance against Air Act, Noise Rules and Water Act will be required

Work (Package No.)	Applicable Legislation/ Type of clearance	Subject / Issue	Clearance given by and date	Remarks/ Action needed
	Noise Pollution (Regulation and Control) Rules, 2002 amended up to 2010 Also for setting up diesel generator Consent to Establish (CTE) and Consent to Operate (CTO)			

IV. IMPLEMENTATION STATUS OF ENVIRONMENTAL MEASURES

24. Out of the 9 sub-projects, the civil work has started at 7 sub-projects upto 30th June, 2015 except Devprayag and Rudraprayag. Application of EMP commenced as per IEE reports. The compliance monitoring format for application of mitigation measures against impacts on air, water, soil environment, social and safety aspects has been enclosed as **Annexure – 3**. Format for summary compliance status of EMP application and actions/corrective measures presented in **Table – 6** given below.

Table - 6: Summary of Compliance Status of Environment Management and Monitoring Plan (Up to 30.06.2015)

Location	Name of Sub-Projects Description	EMP being Implemented (Yes / No)	Overall Status of EMP Implementation (Excellent/Satisfactory/ Partially Satisfactory/ Below Satisfaction/ Poor/Very Poor)	Actions Proposed or continued/Additional Corrective Measures Required
Kapkot	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar&Dharchula (UK/UEAP-WSS-KU/01 Lot 1)	Yes	Partially satisfactory (civil work started since 1 st April, 2015)	<ul style="list-style-type: none"> ✓ Collection of PUC certificate ✓ Complete use of PPEs. ✓ Labour camp to be established ✓ Safety caution tape not in use properly. Arrangement of the same is required ✓ Proper arrangement of stockpiles
Bageshwar	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar&Dharchula (UK/UEAP-WSS-KU/01 Lot 2)	Yes	Partially satisfactory (civil work started since 15 th April, 2015)	<ul style="list-style-type: none"> ✓ Collection of PUC certificate ✓ Complete use of PPEs ✓ Labour camp to be established ✓ Safety caution tape not in use properly ✓ Arrangement of First aid box
Dharchula	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar&Dharchula(Yes	Partially satisfactory (civil work started since 20 th March, 2015)	<ul style="list-style-type: none"> ✓ Complete Collection of PUC certificate ✓ Complete use of PPE ✓ Use of safety tape ✓ Disposal of waste ✓ Use of public safety caution tape

Location	Name of Sub-Projects Description	EMP being Implemented (Yes / No)	Overall Status of EMP Implementation (Excellent/Satisfactory/ Partially Satisfactory/ Below Satisfaction/ Poor/Very Poor)	Actions Proposed or continued/Additional Corrective Measures Required
	UK/UEAP-WSS-KU/01 Lot 3)			
Rudraparyag	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. (UK/UEAP-WSS-GW/01- Lot 1)	No	Work yet not started	Physical work/ actual construction work not started in ground EMP application started shortly
Karnprayag	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. (UK/UEAP-WSS-GW/01- Lot 2)	Yes	Partially Satisfactory (civil work started since 25 th March, 2015)	<ul style="list-style-type: none"> ✓ Continue use of PPE ✓ Collection of PUC certificate
Gauchar	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. (UK/UEAP-WSS-GW/01- Lot 3)	Yes	Partially Satisfactory (civil work started since 25 th March, 2015)	<ul style="list-style-type: none"> ✓ Continue use of PPE ✓ Collection of PUC certificate ✓ Arrangement of labour camp ✓ Disposal of demolition waste
Uttarkashi	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. (UK/UEAP-WSS-GW/01- Lot 4)	No	Poor (civil work recently started in last week on 24 th June, 2015).	Physical work/ actual construction work not started in ground EMP application started shortly
Devprayag	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. (UK/UEAP-WSS-GW/01- Lot 5)	No	Civil work yet not started due to NOC to be obtained for diversion of forest land for non-forest use (construction of office building & CWR).	Physical work/ actual construction work not started in ground EMP application started shortly
Srinagar	Construction of low level pump house, installation	Yes	Partially satisfactory (civil work started since	✓ Collection of PUC

Location	Name of Sub-Projects Description	EMP being Implemented (Yes / No)	Overall Status of EMP Implementation (Excellent/Satisfactory/ Partially Satisfactory/ Below Satisfaction/ Poor/Very Poor)	Actions Proposed or continued/Additional Corrective Measures Required
	of raw water and clear water pumping machinery, Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains, Rehabilitation of WTP's Design, Supply, Construction and Commissioning of Infiltration Wells, Construction of Sump and Electrical and Instrumentation works (UK/UEAP-WSS-GW/02)		15 th April, 2015)	certificate ✓ Complete use of PPE ✓ Labour camp to be established ✓ Safety caution tape not in use properly ✓ Arrangement of First aid box ✓ Disposal/ utilization of waste

V. ENVIRONMENTAL MONITORING AND EVALUATION

25. For effective monitoring, selected environmental parameters have been identified as indicators which will be qualitatively and quantitatively measured and compared over a period of time in order to assess/ensure the compliance of EMP. The environmental performance indicators are physical, biological and social characteristics identified as most important in affecting the environment at critical locations all along the subproject locations. The parameters identified as performance indicators are:
- Air, noise and water quality
 - Compliance to EMP
 - Compliance to local/state/national environmental regulations
26. During implementation process, performance monitoring fact sheet is being prepared against each possible environmental impact and attached with the monitoring report. **Annexure – 4** shows the Performance Fact Sheet for implementation of EMP.
27. Base line air, noise, water quality monitoring have been carried out at all working areas of 9 towns, as per scope of work. During construction monitoring has been carried out at Dharchula and Kapkot. At other towns monitoring will be done after monsoon. In this regard, **Annexure – 5** shows monitoring report summary. Whereas, the major findings are given below,
- ✓ Marginal increase of PM_{2.5} and PM₁₀ concentration at Kapkot and Dharchula during construction stage. The same trend was also noted for SO₂ and NO₂.
 - ✓ In all the cases before construction and during construction stages, the PM_{2.5} and PM₁₀, SO₂ and NO₂ concentrations are within the standard.
 - ✓ Concentration of CO is below the detectable limit.

- ✓ “During construction” noise level during day and night is marginally increased at Dharchula and Kapkot in compared to base line level at these locations.
 - ✓ Base line noise level is above the standard in most of the cases.
 - ✓ Water quality parameters like pH, total hardness, total dissolved solid, chloride, coliform bacteria all are within the standard
 - ✓ Fluoride is not detected in water sample and also iron is below the limit.
 - ✓ Also residual free chlorine is not detected in water sample
 - ✓ There is no significant change in water quality status during construction
28. “During construction” monitoring will be continued as per Environment Management and Monitoring Plan.

VI. MAJOR PROJECT ISSUES AND PROBLEMS ENVIRONMENTAL CONTEXT

29. The major project issues and problems related to the environmental context are summarized below.
- Since 1st Jan, 2015 to 30th June, 2015, the baseline environmental data were generated by the contractors at all 9 sub-projects locations. In continuation of this, one time construction stage environmental monitoring have also done at 2 sub-projects including Dharchula and Kapkot. It could not carried out due to onset of monsoon in remaining sub-projects. It will be carried out after monsoon.
 - Diversion of forest land at Devprayag sub-project is under process and is expected to be resolved soon.
 - Application filed for obtaining CTE and CTO for existing WTP’s from UEPPCB.

VII. CONSULTATIONS AND RECOMMENDATIONS ENVIRONMENTAL CONTEXT

30. For protection of local environment during construction phase, application of mitigation measures will be done as per specified EMP. Public consultation during construction/ implementation phases particularly at sensitive areas will be planned as per the requirement. **Annexure – 6** shows the information gathered from field during consultation. Upto 30th June, 2015, the pipe laying work has not been started. Most of the civil work has been started at open places and isolated areas. The time to time consultation will be taken up with the progress of civil work (if required).

VIII. GRIEVANCE REDRESSAL

31. A joint social and environmental redress mechanism will be implemented under the project. Grievances and suggestions from local and affected people may come-up related to inappropriate implementation of the project and components of EMP. The

expected range of grievances to be handled through this mechanism will encompass but not limited to the following: i) nuisance from noise, dust, and temporary blocking of access; ii) contamination of receiving water from runoff; iii) emissions from increase vehicular traffic and stationary sources like construction machineries; iv) conflict between local residents and migrant workers; v) ownership of vegetation for clearing; and vi) damage compensation. These issues will be addressed through acknowledgement, evaluation and corrective action and response approach. Grievances from public or stakeholders concerning the project and EMP implementation will be received by the concerned Executive Engineer of UEAP division. The Executive Engineer shall refer the application to Construction Supervision Consultants (DSC) who then assess the grievances/suggestions and if they are found to be genuine and acceptable, will be resolved at division level itself within 15 to 30 days from the date of receipt. In case, the issue is unable to be resolved, the matter will be forwarded to the PMU, UEAP (Head quarter). This mechanism is non-judicial in nature and does not preclude the affected people coursing their grievances to the courts. The corrective action will be started as per the action plan indicated to the stakeholder. The action taken and the outcome shall form a part of quarterly report to ADB.

32. The sample for Grievance Registration Format is enclosed as **Annexure – 7**, while the leaflet used for public consultation and awareness has been enclosed as **Annexure – 8**.
33. The Grievance Redressal Cells (GRCs) have been formulated in all 13 districts of Uttarkhand state(**Annexure – 9**). In this regard, the District Disaster Management Officers (DDMOs) have been deputed in each district to resolve and sortout the complaints and disaster related issues on public welfare.

IX. ISSUES AND ACTION PLAN

34. Urbanization has increased at a rapid pace in India over the recent years, much faster than the increase in urban infrastructure facilities to support them. Also, pressure of population has been more on larger towns/cities putting enormous pressure on the resources of municipalities so much so that most are unable to keep up with the provision of even basic services and infrastructure resulting in irregular availability of water, sanitation and public amenities. In extreme cases, this has aggravated risks to public health and safety. Nine towns as selected under the Emergency Program particularly for water supply sector needs immediate attention and urgent implementation process.
35. Experience from ADB-funded urban projects show complex social, economic, legal, institutional, and management issues in urban development – largely derived from realities of urban life in developing countries like India. Urban projects typically consist of a variety of infrastructure such as roads, water, sewerage, solid waste, and slum improvement/upgrading activities. It is important to mention in this context that the final detailed engineering design in each sub project of UEAP have been prepared keeping in mind to avoid or minimize social and environmental impact as far as possible.

36. Some suggestions and action plan considered for satisfactory Environmental Compliances has been summarized in **Table –7** given below.

Table - 7: Suggestions & Action plan considered for satisfactory Environmental Compliances

Sl. No.	Issues	Suggestions and Recommendation	Action to be taken by	Time Frame
1	Application of EMP	Continue on regular basis	Contractor in association with PIU and DSC	Continue process. Submission of monthly format
2	Health and Safety – complete use of PPE	Complete use of PPE	Contractor	Within 15 th August
3	Pollution Under control certificate	Collection of PUC for vehicle and equipment	Contractor	Within 7 th August
4	Arrangement of labour camp/ rented house for contractor	Arrangement as per requirement	Contractor	Before starting of construction work
5	Restoration of the construction area	At earliest as possible	Contractor	-
6	Social relationship and public safety	Arrangement of safety tape and public consultation	Contractor	15 th August
7	Training to workers	Regular tool box training for labourer Safeguard orientation training for contractor	Contractor, PIU, DSC	Continue process

ANNEXURE – 1:ENVIRONMENT, FOREST AND OTHER COMPLIANCES (Upto 30 June, 2015)

Package	EIA Clearance	Wet Land	Forest Clearance	Wild Life Act applicability	Tree Cutting Permission	Permission from State/ National Archaeological Department	Consent for establishment of crusher from quarry material supplier	MSW Rules	CTE/CTO	Authorization	Ground Water Permission	PUC	Date of Environmental Monitoring	Permission for Chlorinization (storage of Chlorine cylinder) at WTP
Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar&Dharchula (UK/UEAP-WSS-KU/01 Lot 1) Kapkot	NR	NR	NR	NR	NR	NR	NR now	NA	NR	NA	NR now	PUC available but not submitted to PIU/DSC	Done Base line – 10.01.2015 During construction- 08.06.2015	NR now
Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar&Dharchula (UK/UEAP-WSS-KU/01 Lot 2) Bageshwar	NR	NR	NR	NR	NR	NR	NR now	NA	NR	NA	NR now	PUC available but not submitted to PIU/DSC	Done Base line- 10.01.2015 to 12.01.2015 During construction – to be done after monsoon	NR now
Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar&Dharchula (UK/UEAP-WSS-KU/01 Lot 3) Dharchula	NR	NR	NR	NR	NR	NR	NR now	NA	NR	NA	NR now	PUC available but not submitted to PIU/DSC	Done Base line – 12.01.2015 & 13.01.2015 During construction- 10.06.2015 & 11.06.2015	NR now
Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR	NR	NR	NR	NR	NR	NR	NR now	NA	NR	NA	NR now	PUC to be collected after commencement of civil work. Instruction given to contractor	Done Base line- 22.02. 2015- 23.02.2015 During construction – to be done after monsoon and as per progress of	NR now

Package	EIA Clearance	Wet Land	Forest Clearance	Wild Life Act applicability	Tree Cutting Permission	Permission from State/ National Archaeological Department	Consent for establishment of crusher from quarry material supplier	MSW Rules	CTE/CTO	Authorization	Ground Water Permission	PUC	Date of Environmental Monitoring	Permission for Chlorination (storage of Chlorine cylinder) at WTP
etc.(UK/UEAP-WSS-GW/01- Lot 1) Rudraprayag													work	
Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. (UK/UEAP-WSS-GW/01- Lot 2) Karnprayag	NR	NR	NR	NR	NR	NR	NR now	NA	NR	NA	NR now	PUC available but not submitted to PIU	Done Base line- 23.02.2015 to 25.02.2015 During construction – to be done after monsoon	NR now
Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. (UK/UEAP-WSS-GW/01- Lot 3) Gauchar	NR	NR	NR	NR	NR	NR	NR now	NA	NR	NA	NR now	PUC available but not submitted to PIU	Done Base line- 28.01.2015 and 01.02.2015 During construction – to be done after monsoon	NR now
Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. (UK/UEAP-WSS-GW/01- Lot 4) Uttarkashi	NR	NR	NR	NR	NR	NR	NR now	NA	NR	NA	NR now	Civil work recently started on 24 th June, 2016. instruction given to contractor for submission of PUC to PIU/DSC.	Done Base line- 26.02.2015 and 27.02.2015 During construction – to be done after monsoon	NR now
Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. (UK/UEAP-WSS-	NR	NR	Yes (under process)	NR	Yes (under process)	NR	NR now	NA	NR	NA	NR now	PUC to be collected after commencement of civil work. Instruction given to contractor	Done Base line- 07.04.2015 and 09.04.2015 During construction stage, it will be done after commencement of civil work	NR now

Package	EIA Clearance	Wet Land	Forest Clearance	Wild Life Act applicability	Tree Cutting Permission	Permission from State/ National Archaeological Department	Consent for establishment of crusher from quarry material supplier	MSW Rules	CTE/CTO	Authorization	Ground Water Permission	PUC	Date of Environmental Monitoring	Permission for Chlorination (storage of Chlorine cylinder) at WTP
GW/01- Lot 5) Devprayag														
Construction of low level pump house, installation of raw water and clear water pumping machinery, Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains, Rehabilitation of WTP's Design, Supply, Construction and Commissioning of Infiltration Wells, Construction of Sump and Electrical and Instrumentation works(UK/UEAP-WSS-GW/02)Srinagar	NR	NR	NR	NR	NR	NR	NR now	NA	NR	NA	NR now	PUC available but not submitted to PIU/DSC.	Done Base line- 20.02.2015 and 22.02.2015 During construction – to be done after monsoon	NR now

ANNEXURE – 2: PHOTO ILLUSTRATION

A. Site Features, Trainings on Safety Measures and Implementation of EMM

1. Kapkot (District – Bageshwar) Water Supply Scheme

Date of Actual Work Started at Site : 1st April, 2015

Reporting Period : 1st January, 2015 to 30th June, 2015



Plate – 1: Infiltration well under construction at Kapkot (Photograph taken on 1st June, 2015)



Plate – 2: Danger symbol(s) displayed by the contractor near construction site for alertness (Photograph taken on 1st June, 2015)



Plate – 3: Information Board displayed by the contractor (Photograph taken on 1st June, 2015)



Plate – 4: PIU officials instructing workers (1st Jun., 2015)

2. Bageshwar (District – Bageshwar) Water Supply Scheme

Date of Actual Work Started at Site : 15th April, 2015

Reporting Period : 1st January, 2015 to 30th June, 2015



Plate – 5: Proposed Infiltration well near Surajkund, Bageshwar
(Photograph taken on 31st May, 2015)



Plate – 6: Damaged pump house at Kathayatbada, Bageshwar
(Photograph taken on 31st May, 2015)



Plate – 7: Damaged Pump to be replaced at Kathayatbada
(Photograph taken on 31st May, 2015)



Plate – 8: Information Board displayed near Raxi Stand Bageshwar
(Photograph taken on 31st May, 2015)

3.Dharchula (District - Pithoragarh) Water Supply Scheme

Date of Actual Work Started at Site : 20th March, 2015

Reporting Period : 1st January, 2015 to 30th June, 2015



Plate – 9: Construction of Outlet Chamber at Manakhet, Dharchula
(Photograph taken on 2nd June, 2015)



Plate – 10: Tank Construction at Dharchula

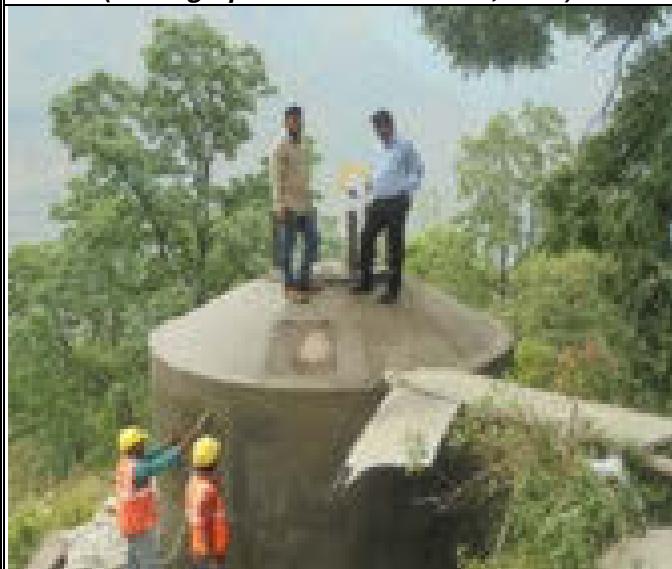


Plate –11: Water Supply Tank completed at Manakhet, Dharchula
(Photograph taken on 2nd June, 2015)



Plate – 12:Environmental Expert of PIU (UWS) giving instructions to contractor staff on environmental compliances as per EMMP

4. Karnaprayag (District - Chamoli) Water Supply Scheme

Date of Actual Work Started at Site : 25th March, 2015

Reporting Period : 1st January, 2015 to 30th June, 2015



Plate – 13: Office Building Construction work at Karnaprayag (Photograph taken on 30 May, 2015)



Plate – 14: Proposed infiltration well at Karnaprayag (Photograph taken on 30 May, 2015)



Plates – 15&16: Env. Expert of PIU (UWS) conducting meeting at site with DSC, FPIU & Contractor staff about EMP implementation, Safety Issues, use of PPE and documentation of records at Pujari Gaon Site near Karnaprayag (Photograph taken on 30 May, 2015)

5. Gauchar (District - Chamoli) Water Supply Scheme

Date of Actual Work Started at Site : 25th March, 2015

Reporting Period : 1st January, 2015 to 30th June, 2015



Plate – 17: Excavation work for retaining wall on the Bank of Alaknanda River at Gauchar (Phototaken on 30 May, 2015)



Plate – 18: Excavation for retaining wall, Gauchar (Photograph taken on 30 May, 2015)

6. Rudraprayag(District - Rudraprayag) Water Supply Scheme

Date of Actual Work Started at Site : Yet to be started

Reporting Period : 1st January, 2015 to 30th June, 2015



Plate – 19: Existing Office Building to be Renovated (Photograph taken on 30 May, 2015)



Plate – 20: Water to be Supplied from SujkiGadhera to near Barsu Village

7. Srinagar (District – PauriGarhwal) Water Supply Scheme

Date of Actual Work Started at Site : 15th April, 2015

Reporting Period : 1st January, 2015 to 30th June, 2015



Plate – 21: Location of 1000 KL Water Supply Tank near Dangbunglaw at Srinagar (Photograph taken on 29th May, 2015)



Plate – 22: Excavation Work under progress for 1000 KL near Dangbunglaw at Srinagar



Plate – 23: Excavation for office building at Srinagar



Plate – 24: Excavation for 1000 KI GLSR at Srinagar

8. Devprayag(District – TehriGarhwal) Water Supply Scheme

Date of Actual Work Started at Site : Yet to be started

Reporting Period : 1st January, 2015 to 30th June, 2015



Plate – 25: Existing Intake Well at Source of Randhi Gad near Devprayag
(Photograph taken on 29th May, 2015)



Plate – 26: Damaged Pipe Line due to Landslide at Randhi Gad near Devprayag
(Photograph taken on 29th May, 2015)



Plate – 27: Existing collection chamber for water at Randhi Gad near Devprayag
(Photograph taken on 29th May, 2015)



Plate – 28: Reserve Forest land under diversion for construction of New Office Building & CWR
(Photograph taken on 29th May, 2015)

9. Uttarkashi(District - Uttarkashi) Water Supply Scheme

Date of Actual Work Started at Site : 24th June, 2015

Reporting Period : 1st January, 2015 to 30th June, 2015



Plate – 29: Meeting held at Uttarkashi among PIU, F-PIU, DSC & NGO before commencement of work



Plate – 30: Site visit among PIU Experts, DSC & NGO for Environment and Social Impacts



Plate – 31: Existing water tank at Gofiara site for minor repair work
Photograph taken on 12th June, 2015



Plate – 32: Water filtration channels at Gofiara, Uttarkashi
(Photograph taken on 12th June, 2015)

B. Environmental Monitoring Photographs

Base Line Data Generated at Pre-Construction Stage: 10th Jan., 2015 to 2nd March, 2015

No. of Sub-Projects Covered : 9 Sub-projects (6 in Garhwal & 3 in Kumaon)

	
<p>Plate –33: Instrument (RDS) used during Ambient Air Quality Monitoring (View – I)</p>	<p>Plate – 34: Air Quality Monitoring (View – II)</p>
	
<p>Plate – 35: Collection of Water Samples for Testing</p>	<p>Plate – 36: Instrument used for Noise Level Monitoring</p>

ANNEXURE – 3: COMPLIANCE OF APPLICATION OF EMMP

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at **Kapkot**
Package No. : UK/UEAP-WSS-KU/01 (Lot 1)
Physical Progress:28%

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
Site Establishment and Preliminary Activities phase								
1	Legislation, Permits and Agreements	In all instances, EA, IA contractors and consultants must remain in compliance with relevant environmental legislation of India at the national, state and local levels. Proof of compliance to statutory requirements must be forwarded by the facility owner and/or contractor to PMU/PIU in relation to hot mixing, stone crushers, diesel generators etc. A copy of the EMP must be kept on site during the construction period	EMP kept at site NOC from competent authority	All project sites	DSC/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	NOC not required EMP available with PIU
2	Education of site staff on general and Environmental Conduct	Ensure that all site personnel have a basic level of environmental awareness training Staff operating equipment (such as excavators, loaders, etc.) shall be adequately trained and sensitized to any potential hazards associated with their task No operator shall be permitted to operate critical items of mechanical equipment without having been trained by the Contractor.	Documentation – Training and awareness	-	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied Site Safety training arranged by Environment Specialist of DSC Tool box training will be required on regular basis
3	Social Impacts	Open liaison channels shall be established between the Site owner, operator, the contractors and interested and affected parties such that any	Sign boards displayed at site.	-	DSC/PIU	Materials and records on awareness training	Environment Specialist of DSC and Environment	To be comply

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		queries, complaints or suggestions pertaining to environmental management aspects can be dealt with quickly and by the appropriate person(s). Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints.	Project information disseminated			program	Officer of PMU	Not done
4	Lack of sufficient planning to assure long term sustainability of the improvements and ensure protection of the assets created and the architectural/archaeological character of the surroundings	Design will include provisions for ensuring effective maintenance and protection of the assets created so as to ensure the long term sustainability.	Maintenance procedure as per design	-	PMU/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design
5	Layout of components and its location to avoid impacts on the aesthetics, sensitive environmental areas / attributes of the site	The project components siting will avoid impacts on the aesthetics of the site, ensure minimal impacts and in compliance with statutory and regulatory requirements.	Layout components of	All project locations	PMU/PIU/ DSC	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
6	Selection of materials and construction technologies, if not carefully	Selection of materials will be according to specification and from approved sources Procurement of all material according to the material specification of the contract document and sourced from licensed and approved sources.	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials ConstructionCo 	Material source sites	Contractor, PIU, DSC	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	PMU	Under compliance Approval obtained/ or to

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	chosen, will adversely impact the aesthetic appeal of the destinations		ntractor documentation					beobtained from PMU and DSC.
7	Socio cultural resources- Ground disturbance can uncover and damage archaeological and historical remains`	There is not such location anticipated on the project site. In case of chance of finding such location, Consult Archaeological Survey of India (ASI) and/or concerned dept. of Uttarakhand Govt. as applicable to obtain an expert assessment of the archaeological potential of the site	Chance find protocol	-	PIU, PMU	Site observation, document checking	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per requirement
8	Integration of energy efficiency and energy conservation programs in design of sub-project components	The detailed designs for the sub-project components shall ensure that environmental sustainability principles, including energy efficiency, resource recycling, waste minimization, rainwater harvesting etc.	Detailed design	-	DSC, PMU	Document checking and site feasibility	PMU	Under compliance
9	Site clearance activities, including delineation of construction areas	Any removal of vegetation or tree felling shall be done after taking statutory permissions if required. All works shall be carried out such that the damage or disruption of flora other than those identified for cutting is minimum. Only ground cover/shrubs that impinge directly on the permanent works or necessary temporary works shall be removed with prior approval from the Environmental Expert of DSC All areas used for temporary construction operations will be subject to complete restoration to their former condition with appropriate rehabilitation procedures as per the rehabilitation	Necessary permission/ NOC	-	DSC, PIU	Document checking	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Restoration will be done

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		plan						
10	Blockage of access in residential area, commercial area and sensitive location like school, college, hospitals and court	Contractor will identify such location in the preconstruction stage and prepare plan approved by DSC to minimize inconvenience to the people.	Complain from sensitive receptors	Construction location	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per site condition particularly pipe laying area
11	Slope protection near reservoir and intake well	Retaining wall will constructed near reservoir and intake well	Protection work	-	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
Construction phase								
12	Construction Camps - Location, Selection, Design and Layout	Siting of the construction camps, labour camp, and stockpiles shall be as per the guidelines of UEPPCB, ULB, village panchayat and any other applicable guideline to the local site. The contractor will assess the impact of the construction camp and should be acceptable to the PIU/ IA/PMU. Construction camps will be located away from settlements and drainage from and through the camps will not endanger any domestic or public water supply. Construction camps including sanitation facilities must be adequately drained. Sewage management through septic tanks and solid waste management through local ULB system or other alternate measures.	Selected location for construction work camps and stockpile area,	Construction camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Construction labour camp not yet established All facilities to be provided as per EMP
13	Drinking water availability	Sufficient supply of potable water to be provided and maintained as per the standards, requirements, test methods and sampling	Availability of drinking water	Working and camp site	Contractor	Site observation	Environment Specialist of DSC and	To be provided

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		procedure according to IS:10500.					Environment Officer of PMU	
14	Waste disposal	Pre-identified disposal location (identified by Contractor in compliance to relevant regulation and approved by DSC) shall be part of Comprehensive Waste Disposal Plan Solid Waste Management Plan. Contractor shall ensure that waste shall not be disposed off near the water course or agricultural land, Orchards and Natural Habitats like Grasslands.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	To be Comply Utilization of excess earth to be done.
15	Stockpiling of construction materials	Stockpiling of construction materials and excavated earth or silt in case of construction of river bed filtration does not impact obstruct the drainage and Stockpiles will be covered to protect from dust and erosion.	Selected location and facility	Project Locations	Contractor	Site checking	Environment Specialist of DSC and Environment Officer of PMU	Partially complied. Instruction given to contractor
16	Access to Site	Contractors shall ensure that all side drains and scour check walls on access and haul roads are functioning properly and are well maintained. Contractors shall ensure that access roads are maintained in good condition	<ul style="list-style-type: none"> Involvement of traffic dept. Road closure planning Maintenance of road 	Specific project location	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Instruction given to contractor
17	Quarry Operations	Contractor shall finalize the quarry for procurement of construction materials after assessment of the availability of sufficient quantity of materials, quality and other logistic arrangements. The Contractor shall obtain materials from approved quarries only after consent of the Department of Mines and Geology and District Administration.	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction Contractor documentation 	Quarries and material source areas	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Approval obtained from PMU and DSC
18	Arrangement for Construction Water	The contractor shall use ground/surface water as a source of water for the construction with the written consent from the concerned Department. The Contractor shall provide a list of locations and	Water source locations	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	To be arranged

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		type of sources from where water for construction shall be extracted.						
19	Soil/land Erosion	Slope protection measures will be undertaken as per design to control soil erosion. There shall be a periodic checking of the site's drainage system by DSC, PIU/IA and PMU to ensure that the water flow is unobstructed.	Slope protection work	Construction locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Will be done as per requirement and site condition
20	Water Pollution from Construction Wastes	The Contractor shall take all precautionary measures to prevent entering of wastewater into streams, water bodies or the irrigation system during construction. Waste will be disposed of to a suitable waste site in accordance with Hazardous Wastes (Management, Handling and Transboundary movement) Rules, 2008 and amendments till date and applicable norms	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged near water source
21	Water Pollution from Fuel and Lubricants	The Contractor shall ensure that all construction vehicle parking locations, fuel/ lubricants storage sites, vehicle, machinery and equipment maintenance and refueling sites shall be located at least 300 m away from rivers/streams and irrigation canal/ponds if any	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per requirement. Instruction given
22	Soil Pollution due to fuel and lubricants, construction waste	The fuel storage and vehicle cleaning area will be stationed such that spillage of fuels and lubricants does not contaminate the ground. All pollution parameters will be monitored as per monitoring plan.	<ul style="list-style-type: none"> Soil pollution-contamination of ground 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per requirement. Instruction given
23	Generation of dust	The contractor will take every precaution to reduce the levels of dust at construction site. Regular sprinkling of water and Stockpiles of soil will be kept covered in such a manner to minimize	<ul style="list-style-type: none"> Location of stockpiles Complaints from sensitive 	Project locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection 	Environment Specialist of DSC and Environment Officer of PMU	Complied Location of stockpiles selected. Covering of

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		dust generation	<ul style="list-style-type: none"> receptors Monitoring data Water sprinkling arrangement Cover materials 			of sites		materials will be considered Water sprinkling to be done. Base line and during construction air quality monitoring done as per EMP
24	Emission from Construction Vehicles, Equipment and Machinery	All vehicles, equipment and machinery used for construction shall conform to the relevant Bureau of India Standard (BIS) norms. The discharge standards promulgated under the Environment Protection Act, 1986 shall be strictly adhered to. The use of silent/quiet equipment compliant with India ambient noise standards and standards specified for manufacturers shall be encouraged in the sub Project. The Contractor shall maintain a record of PUC for all vehicles and machinery used during the contract period which shall be produced for verification whenever required.	<ul style="list-style-type: none"> Heavy equipment and machinery with air pollution control Availability of PUC certificate 	Project locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	PUC certificate not submitted by contractor
25	Noise Pollution	The Contractor shall confirm that all Construction equipment used in construction shall strictly conform to the MoEF/CPCB noise standards and all Vehicles and equipment used in construction shall be fitted with exhaust silencers. At the construction sites noisy construction work such as crushing, operation of DG sets, use of	<ul style="list-style-type: none"> Complaints from sensitive receptors Use of silencers in noise-producing equipment and sound barriers 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied No such noise producing machinery mobilized at site PPE utilizing

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		high noise generation equipment shall be stopped during the night time between 10.00 pm to 6.00 am. Noise limits for construction equipment used in this project will be in conformity to the BIS/SPCB/CPCB standards Regular monitoring of ambient noise levels to ensure compliance to Uttarakhand Environment Protection & Pollution Control Board standards.	<ul style="list-style-type: none"> Monitoring data 					partially. Base line monitoring done. During construction monitoring also done
26	Material Handling at Site	Workers Employed on mixing cement, lime mortars, concrete etc., will be provided with protective footwear and protective masks and goggles. Workers, who are engaged in welding works, will be provided with welder's protective eye-shields. Workers engaged in stone breaking activities will be provided with protective goggles, masks, and clothing. All concrete mixing must take place on a designated, impermeable surface.	Available protective equipments	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Partially complied. Instruction given to contractor for full compliance
27	Damage, and disturbance to other infrastructure in the construction site	Confirm location of infrastructure. Finalize alignment in coordination with agencies like Uttarakhand Power Corporation Limited, Bharat Sanchar Nigam Limited, etc. Ensure prior permission of respective agency Realign pipelines, if required and subsequently revise IEE Provide public information in case of service disruptions	List of affected utilities / infrastructure if any and operators	Specific project location	Contractor	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Not required now. Utility shifting plan (if any) will be developed and implemented with progress of work
28	Disposal of Construction Waste / Debris /	The Contractor shall confirm that Safe disposal of the construction waste will be ensured in the pre-identified disposal locations. In no case, any	<ul style="list-style-type: none"> Waste Management List 	Project Locations	Contractor	Site observation	Environment Specialist of DSC and	To be Comply Utilization of

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	Cut Material	construction waste will be disposed around the project site indiscriminately.	<ul style="list-style-type: none"> Complaints from sensitive receptors 				Environment Officer of PMU	excess earth and demolish waste to be done.
29	Disruption / cessation of existing water supply systems due to construction activity.	Care to be taken during improvement of existing water supply systems, so that disruption in existing water supply would not occur. Tentative schedule of closure should be known to affected people prior to cessation of water supply. In case disruption of water supply exceeds the intimated schedule, arrangement for supply of potable water should be made.	<ul style="list-style-type: none"> Schedule of closure 	Project site	Contractor, PIU	Checking of records of Visual observation	Environment Specialist of DSC and Environment Officer of PMU	Not required as per present nature of work
30	Safety Measures During Construction	<p>Personal Protective Equipments (PPEs) for workers on the project and adequate safety measures for workers during handling of materials at site will be taken up. The contractor has to comply with all regulations regarding safe scaffolding, ladders, working platforms, gangway, stairwells, excavations, trenches and safe means of entry and egress.</p> <p>The contractor has to comply with all regulations for the safety of workers. Precaution will be taken to prevent danger of the workers from fire, etc. First aid treatment will be made available for all injuries likely to be sustained during the course of work. Contractor shall also organize periodic visits by a qualified registered medical practitioner to the site and workers camp. Contact information of Doctor, availability & location of first aid box shall be displayed in appropriate language both at work site and workers camp.</p>	<ul style="list-style-type: none"> Site-specific Health and Safety (H&S) Plan Equipped first-aid stations; Medical insurance coverage for workers Supplies of potable drinking water; Record of H&S orientation trainings Personal protective equipments Sign boards for comply public safety 	Project Locations	Contractor	Document check and visual observation	Environment Specialist of DSC and Environment Officer of PMU	<p>PPE used by contractor partially,</p> <p>First aid box available</p> <p>Safety tape / barricade not provided</p> <p>Overall partially complied</p>

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		The Contractor will also ensure that the interests of the community are preferably not disturbed, and if unavoidable then disturbed to the minimum. Provide traffic management personnel, barricade, appropriate signage and safety information in and around the construction site and prevent local people entering into the construction site.	<ul style="list-style-type: none"> Complaints from sensitive receptors Number of signages placed at subproject location 					
31	Clearing of Construction of Camps and Restoration	Contractor to prepare site restoration plans for approval by the Engineer. The plan is to be implemented by the contractor prior to demobilization.	Site restoration plan	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Instruction provided to contractor during training
32	Risk of archaeological chance finds	Strictly follow the protocol for chance finds in any excavation work; Request FPIU/DSC or any authorized person with archaeological field training to observe excavation; Stop work immediately to allow further investigation if any finds are suspected; and Inform FPIU/DSC, and take any action they require ensuring its removal or protection in situ.	Chance find protocol	Project Locations	Contractor	Checking of record	Environment Specialist of DSC and Environment Officer of PMU	Not required till date
33	Conflict with locals	Contractor shall ensure that mostly the local labourers are employed and migratory laborer shall be employed only in case of unavoidable circumstances.	Employment record	Project Locations	Contractor	Checking of records	Environment Specialist of DSC and Environment Officer of PMU	Complied Local labours are employed
34	Environment and Safeguards Officer (ESO)	Contractor shall appoint one full-time suitably qualified and experienced Environment and Safety Officer who shall be responsible for assisting contractor in implementation of EMP, community liaisoning, consultations with interested/affected parties, reporting and grievance redressal on day-to-day basis. This environment and safety officer	Available Environment and safety officer	Project site/ Office	Contractor	Observation, checking of presence and activity	Environment Specialist of DSC and Environment Officer of PMU	Complied

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		will be at site till all works related to the project including demobilization are completed.						

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at **Bageshwar**
Package No. : UK/UEAP-WSS-KU/01 (Lot 2)
Physical Progress: 3.75%

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
Site Establishment and Preliminary Activities phase								
1	Legislation, Permits and Agreements	In all instances, EA, IA contractors and consultants must remain in compliance with relevant environmental legislation of India at the national, state and local levels. Proof of compliance to statutory requirements must be forwarded by the facility owner and/or contractor to PMU/PIU in relation to hot mixing, stone crushers, diesel generators etc. A copy of the EMP must be kept on site during the construction period	EMP kept at site NOC from competent authority	All project sites	DSC/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	NOC not required EMP available with PIU
2	Education of site staff on general and Environmental Conduct	Ensure that all site personnel have a basic level of environmental awareness training Staff operating equipment (such as excavators, loaders, etc.) shall be adequately trained and sensitized to any potential hazards associated with their task No operator shall be permitted to operate critical items of mechanical equipment without having been trained by the Contractor.	Documentation – Training and awareness	-	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied Site Safety training arranged by Environment Specialist of DSC Tool box training will be required on regular basis
3	Social Impacts	Open liaison channels shall be established between the Site owner, operator, the contractors and interested and affected parties such that any queries, complaints or suggestions pertaining to	Sign boards displayed Project information	-	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	To be comply Not done

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		environmental management aspects can be dealt with quickly and by the appropriate person(s). Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints.	disseminated					
4	Lack of sufficient planning to assure long term sustainability of the improvements and ensure protection of the assets created and the architectural/arch aeological character of the surroundings	Design will include provisions for ensuring effective maintenance and protection of the assets created so as to ensure the long term sustainability.	Maintenance procedure as per design	-	PMU/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design
5	Layout of components and its location to avoid impacts on the aesthetics, sensitive environmental areas / attributes of the site	The project components siting will avoid impacts on the aesthetics of the site, ensure minimal impacts and in compliance with statutory and regulatory requirements.	Layout of components	All project locations	PMU/PIU/ DSC	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
6	Selection of materials and construction technologies, if not carefully chosen, will	Selection of materials will be according to specification and from approved sources Procurement of all material according to the material specification of the contract document and sourced from licensed and approved sources.	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction Contractor 	Material source sites	Contractor, PIU, DSC	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	PMU	Under compliance Approval obtained/ or to be obtained

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	adversely impact the aesthetic appeal of the destinations		documentation					from PMU and DSC.
7	Socio cultural resources- Ground disturbance can uncover and damage archaeological and historical remains`	There is not such location anticipated on the project site. In case of chance of finding such location, Consult Archaeological Survey of India (ASI) and/or concerned dept. of Uttarakhand Govt. as applicable to obtain an expert assessment of the archaeological potential of the site	Chance find protocol	-	PIU, PMU	Site observation, document checking	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per requirement
8	Integration of energy efficiency and energy conservation programs in design of sub-project components	The detailed designs for the sub-project components shall ensure that environmental sustainability principles, including energy efficiency, resource recycling, waste minimization, rainwater harvesting etc.	Detailed design	-	DSC, PMU	Document checking and site feasibility	PMU	Under compliance
9	Site clearance activities, including delineation of construction areas	Any removal of vegetation or tree felling shall be done after taking statutory permissions if required. All works shall be carried out such that the damage or disruption of flora other than those identified for cutting is minimum. Only ground cover/shrubs that impinge directly on the permanent works or necessary temporary works shall be removed with prior approval from the Environmental Expert of DSC All areas used for temporary construction operations will be subject to complete restoration to their former condition with appropriate rehabilitation procedures as per the rehabilitation	Necessary permission/ NOC	-	DSC, PIU	Document checking	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Restoration will be done

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		plan						
10	Blockage of access in residential area, commercial area and sensitive location like school, college, hospitals and court	Contractor will identify such location in the preconstruction stage and prepare plan approved by DSC to minimize inconvenience to the people.	Complain from sensitive receptors	Construction location	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per site condition particularly pipe laying area Work just started
11	Slope protection near reservoir and intake well	Retaining wall will constructed near reservoir and intake well	Protection work	-	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
Construction phase								
12	Construction Camps - Location, Selection, Design and Layout	Siting of the construction camps, labour camp, and stockpiles shall be as per the guidelines of UEPPCB, ULB, village panchayat and any other applicable guideline to the local site. The contractor will assess the impact of the construction camp and should be acceptable to the PIU/ IA/PMU. Construction camps will be located away from settlements and drainage from and through the camps will not endanger any domestic or public water supply. Construction camps including sanitation facilities must be adequately drained. Sewage management through septic tanks and solid waste management through local ULB system or other alternate measures.	Selected location for construction work camps and stockpile area,	Construction camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Construction labour camp not yet established Work just started All facilities to be provided as per EMP
13	Drinking water availability	Sufficient supply of potable water to be provided and maintained as per the standards,	Availability of	Working and	Contractor	Site	Environment Specialist of DSC and	To be provided at

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		requirements, test methods and sampling procedure according to IS:10500.	drinking water	camp site		observation	Environment Officer of PMU	working and camp site
14	Waste disposal	Pre-identified disposal location (identified by Contractor in compliance to relevant regulation and approved by DSC) shall be part of Comprehensive Waste Disposal Plan Solid Waste Management Plan. Contractor shall ensure that waste shall not be disposed off near the water course or agricultural land, Orchards and Natural Habitats like Grasslands.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	To be Comply Utilization of excess earth to be done. Pipe laying work yet to be start
15	Stockpiling of construction materials	Stockpiling of construction materials and excavated earth or silt in case of construction of river bed filtration does not impact obstruct the drainage and Stockpiles will be covered to protect from dust and erosion.	Selected location and facility	Project Locations	Contractor	Site checking	Environment Specialist of DSC and Environment Officer of PMU	Partially complied. Instruction given to contractor
16	Access to Site	Contractors shall ensure that all side drains and scour check walls on access and haul roads are functioning properly and are well maintained. Contractors shall ensure that access roads are maintained in good condition	<ul style="list-style-type: none"> Involvement of traffic dept. Road closure planning Maintenance of road 	Specific project location	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Instruction given to contractor
17	Quarry Operations	Contractor shall finalize the quarry for procurement of construction materials after assessment of the availability of sufficient quantity of materials, quality and other logistic arrangements. The Contractor shall obtain materials from approved quarries only after consent of the Department of Mines and Geology and District Administration.	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction Contractor documentation 	Quarries and material source areas	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Approval obtained from PMU and DSC
18	Arrangement for	The contractor shall use ground/surface water as a	Water source	Project	Contractor	Site	Environment	To be

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	Construction Water	source of water for the construction with the written consent from the concerned Department. The Contractor shall provide a list of locations and type of sources from where water for construction shall be extracted.	locations	locations		observation	Specialist of DSC and Environment Officer of PMU	arranged
19	Soil/land Erosion	Slope protection measures will be undertaken as per design to control soil erosion. There shall be a periodic checking of the site's drainage system by DSC, PIU/IA and PMU to ensure that the water flow is unobstructed.	Slope protection work	Construction locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Will be done as per requirement and site condition.
20	Water Pollution from Construction Wastes	The Contractor shall take all precautionary measures to prevent entering of wastewater into streams, water bodies or the irrigation system during construction. Waste will be disposed of to a suitable waste site in accordance with Hazardous Wastes (Management, Handling and Trans-boundary movement) Rules, 2008 and amendments till date and applicable norms	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged near water source
21	Water Pollution from Fuel and Lubricants	The Contractor shall ensure that all construction vehicle parking locations, fuel/ lubricants storage sites, vehicle, machinery and equipment maintenance and refueling sites shall be located at least 300 m away from rivers/streams and irrigation canal/ponds if any	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per requirement. Instruction given
22	Soil Pollution due to fuel and lubricants, construction waste	The fuel storage and vehicle cleaning area will be stationed such that spillage of fuels and lubricants does not contaminate the ground. All pollution parameters will be monitored as per monitoring plan.	<ul style="list-style-type: none"> Soil pollution-contamination of ground 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per requirement. Instruction given

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
23	Generation of dust	The contractor will take every precaution to reduce the levels of dust at construction site. Regular sprinkling of water and Stockpiles of soil will be kept covered in such a manner to minimize dust generation	<ul style="list-style-type: none"> Location of stockpiles Complaints from sensitive receptors Monitoring data Water sprinkling arrangement Cover materials 	Project locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied Location of stockpiles selected. Covering of materials will be considered Water sprinkling to be done. Base line air quality monitoring done and during construction monitoring will be done after monsoon and as per EMP.
24	Emission from Construction Vehicles, Equipment and Machinery	All vehicles, equipment and machinery used for construction shall confirm to the relevant Bureau of India Standard (BIS) norms. The discharge standards promulgated under the Environment Protection Act, 1986 shall be strictly adhered to. The use of silent/quiet equipment compliant with India ambient noise standards and standards specified for manufacturers shall be encouraged in the sub Project. The Contractor shall maintain a record of PUC for all vehicles and machinery used during the	<ul style="list-style-type: none"> Heavy equipment and machinery with air pollution control Availability of PUC certificate 	Project locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	PUC certificate not submitted by contractor Work just started

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		contract period which shall be produced for verification whenever required.						
25	Noise Pollution	<p>The Contractor shall confirm that all Construction equipment used in construction shall strictly conform to the MoEF/CPCB noise standards and all Vehicles and equipment used in construction shall be fitted with exhaust silencers.</p> <p>At the construction sites noisy construction work such as crushing, operation of DG sets, use of high noise generation equipment shall be stopped during the night time between 10.00 pm to 6.00 am.</p> <p>Noise limits for construction equipment used in this project will be in conformity to the BIS/SPCB/CPCB standards</p> <p>Regular monitoring of ambient noise levels to ensure compliance to Uttarakhand Environment Protection & Pollution Control Board standards.</p>	<ul style="list-style-type: none"> Complaints from sensitive receptors Use of silencers in noise-producing equipment and sound barriers Monitoring data 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied No such noise producing machinery mobilized at site PPE utilizing partially. Base line monitoring done. During construction monitoring to be done
26	Material Handling at Site	<p>Workers Employed on mixing cement, lime mortars, concrete etc., will be provided with protective footwear and protective masks and goggles.</p> <p>Workers, who are engaged in welding works, will be provided with welder's protective eye-shields.</p> <p>Workers engaged in stone breaking activities will be provided with protective goggles, masks, and clothing.</p> <p>All concrete mixing must take place on a designated, impermeable surface.</p>	Available protective equipments	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Partially complied. Instruction given to contractor for full compliance

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
27	Damage, and disturbance to other infrastructure in the construction site	Confirm location of infrastructure. Finalize alignment in coordination with agencies like Uttarakhand Power Corporation Limited, Bharat Sanchar Nigam Limited, etc. Ensure prior permission of respective agency Realign pipelines, if required and subsequently revise IEE Provide public information in case of service disruptions	List of affected utilities / infrastructure if any and operators	Specific project location	Contractor	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Not required now. Utility shifting plan (if any) will be developed and implemented with progress of work.
28	Disposal of Construction Waste / Debris / Cut Material	The Contractor shall confirm that Safe disposal of the construction waste will be ensured in the pre-identified disposal locations. In no case, any construction waste will be disposed around the project site indiscriminately.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	To be Comply Utilization of excess earth and demolish waste to be done.
29	Disruption / cessation of existing water supply systems due to construction activity.	Care to be taken during improvement of existing water supply systems, so that disruption in existing water supply would not occur. Tentative schedule of closure should be known to affected people prior to cessation of water supply. In case disruption of water supply exceeds the intimated schedule, arrangement for supply of potable water should be made.	<ul style="list-style-type: none"> Schedule of closure 	Project site	Contractor, PIU	Checking of records Visual observation	Environment Specialist of DSC and Environment Officer of PMU	Not required as per present nature of work
30	Safety Measures During Construction	Personal Protective Equipment for workers on the project and adequate safety measures for workers during handling of materials at site will be taken up. The contractor has to comply with all regulations regarding safe scaffolding, ladders, working platforms, gangway, stairwells, excavations, trenches and safe means of entry and egress.	<ul style="list-style-type: none"> Site-specific Health and Safety (H&S) Plan Equipped first-aid stations; Medical insurance coverage for workers 	Project Locations	Contractor	Document check and visual observation	Environment Specialist of DSC and Environment Officer of PMU	PPE used by contractor partially, First aid box to be arrange Safety tape / barricade not

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		<p>The contractor has to comply with all regulations for the safety of workers. Precaution will be taken to prevent danger of the workers from fire, etc. First aid treatment will be made available for all injuries likely to be sustained during the course of work. Contractor shall also organize periodic visits by a qualified registered medical practitioner to the site and workers camp. Contact information of Doctor, availability & location of first aid box shall be displayed in appropriate language both at work site and workers camp.</p> <p>The Contractor will also ensure that the interests of the community are preferably not disturbed, and if unavoidable then disturbed to the minimum. Provide traffic management personnel, barricade, appropriate signage and safety information in and around the construction site and prevent local people entering into the construction site.</p>	<ul style="list-style-type: none"> Supplies of potable drinking water; Record of H&S orientation trainings Personal protective equipments Sign boards for comply public safety Complaints from sensitive receptors Number of signages placed at subproject location 					<p>provided</p> <p>Overall partially complied</p>
31	Clearing of Construction of Camps and Restoration	Contractor to prepare site restoration plans for approval by the Engineer. The plan is to be implemented by the contractor prior to demobilization.	Site restoration plan	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Instruction provided to contractor during training
32	Risk of archaeological chance finds	Strictly follow the protocol for chance finds in any excavation work; Request FPIU/DSC or any authorized person with archaeological field training to observe excavation; Stop work immediately to allow further investigation if any finds are suspected; and Inform FPIU/DSC, and take any action they require ensuring its removal or protection in situ.	Chance find protocol	Project Locations	Contractor	Checking of record	Environment Specialist of DSC and Environment Officer of PMU	Not required till date

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
33	Conflict with locals	Contractor shall ensure that mostly the local labourers are employed and migratory laborer shall be employed only in case of unavoidable circumstances.	Employment record	Project Locations	Contractor	Checking of records	Environment Specialist of DSC and Environment Officer of PMU	Complied Local labours are employed
34	Environment and Safeguards Officer (ESO)	Contractor shall appoint one full-time suitably qualified and experienced Environment and Safety Officer who shall be responsible for assisting contractor in implementation of EMP, community liaisoning, consultations with interested/affected parties, reporting and grievance redressal on day-to-day basis. This environment and safety officer will be at site till all works related to the project including demobilization are completed.	Available Environment and safety officer	Project site/ Office	Contractor	Observation, checking of presence and activity	Environment Specialist of DSC and Environment Officer of PMU	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at **Dharchula**
Package No. : UK/UEAP-WSS-KU/01 (Lot 3)
Physical Progress: 23.54%

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
Site Establishment and Preliminary Activities phase								
1	Legislation, Permits and Agreements	In all instances, EA, IA contractors and consultants must remain in compliance with relevant environmental legislation of India at the national, state and local levels. Proof of compliance to statutory requirements must be forwarded by the facility owner and/or contractor to PMU/PIU in relation to hot mixing, stone crushers, diesel generators etc. A copy of the EMP must be kept on site during the construction period	EMP kept at site NOC from competent authority	All project sites	DSC/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	NOC not required EMP available with PIU
2	Education of site staff on general and Environmental Conduct	Ensure that all site personnel have a basic level of environmental awareness training Staff operating equipment (such as excavators, loaders, etc.) shall be adequately trained and sensitized to any potential hazards associated with their task No operator shall be permitted to operate critical items of mechanical equipment without having been trained by the Contractor.	Documentation – Training and awareness	-	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied Site Safety training arranged by Environment Specialist of DSC Tool box training will be required on regular basis
3	Social Impacts	Open liaison channels shall be established between the Site owner, operator, the contractors and interested and affected parties such that any queries, complaints or suggestions pertaining to	Sign boards displayed at site. Project information	-	DSC/PIU	Materials and records on awareness training	Environment Specialist of DSC and Environment	To be comply Not done

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		environmental management aspects can be dealt with quickly and by the appropriate person(s). Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints.	disseminated			program	Officer of PMU	
4	Lack of sufficient planning to assure long term sustainability of the improvements and ensure protection of the assets created and the architectural/archaeological character of the surroundings	Design will include provisions for ensuring effective maintenance and protection of the assets created so as to ensure the long term sustainability.	Maintenance procedure as per design	-	PMU/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design
5	Layout of components and its location to avoid impacts on the aesthetics, sensitive environmental areas / attributes of the site	The project components siting will avoid impacts on the aesthetics of the site, ensure minimal impacts and in compliance with statutory and regulatory requirements.	Layout of components	All project locations	PMU/PIU/ DSC	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
6	Selection of materials and construction technologies, if not carefully	Selection of materials will be according to specification and from approved sources Procurement of all material according to the material specification of the contract document and sourced from licensed and approved sources.	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction Contractor documents 	Material source sites	Contractor, PIU, DSC	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	PMU	Under compliance Approval obtained/ or to be obtained

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	chosen, will adversely impact the aesthetic appeal of the destinations		ntation					om PMU and DSC.
7	Socio cultural resources- Ground disturbance can uncover and damage archaeological and historical remains`	There is not such location anticipated on the project site. In case of chance of finding such location, Consult Archaeological Survey of India (ASI) and/or concerned dept. of Uttarakhand Govt. as applicable to obtain an expert assessment of the archaeological potential of the site	Chance find protocol	-	PIU, PMU	Site observation, document checking	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per requirement
8	Integration of energy efficiency and energy conservation programs in design of sub-project components	The detailed designs for the sub-project components shall ensure that environmental sustainability principles, including energy efficiency, resource recycling, waste minimization, rainwater harvesting etc.	Detailed design	-	DSC, PMU	Document checking and site feasibility	PMU	Under compliance
9	Site clearance activities, including delineation of construction areas	Any removal of vegetation or tree felling shall be done after taking statutory permissions if required. All works shall be carried out such that the damage or disruption of flora other than those identified for cutting is minimum. Only ground cover/shrubs that impinge directly on the permanent works or necessary temporary works shall be removed with prior approval from the Environmental Expert of DSC All areas used for temporary construction	Necessary permission/ NOC	-	DSC, PIU	Document checking	Environment Specialist of DSC and Environment Officer of PMU	Done as per requirement Restoration will be done

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		operations will be subject to complete restoration to their former condition with appropriate rehabilitation procedures as per the rehabilitation plan						
10	Blockage of access in residential area, commercial area and sensitive location like school, college, hospitals and court	Contractor will identify such location in the preconstruction stage and prepare plan approved by DSC to minimize inconvenience to the people.	Complain from sensitive receptors	Construction location	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per site condition particularly pipe laying area
11	Slope protection near reservoir and intake well	Retaining wall will constructed near reservoir and intake well	Protection work	-	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
Construction phase								
12	Construction Camps - Location, Selection, Design and Layout	Siting of the construction camps, labour camp, and stockpiles shall be as per the guidelines of UEPPCB, ULB, village panchayat and any other applicable guideline to the local site. The contractor will assess the impact of the construction camp and should be acceptable to the PIU/ IA/PMU. Construction camps will be located away from settlements and drainage from and through the camps will not endanger any domestic or public water supply. Construction camps including sanitation facilities must be adequately drained. Sewage management through septic tanks and solid waste management through local ULB system or other alternate measures.	Selected location for construction work camps and stockpile area,	Construction camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Labour camp arranged in rented house All facilities available as per EMP

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
13	Drinking water availability	Sufficient supply of potable water to be provided and maintained as per the standards, requirements, test methods and sampling procedure according to IS:10500.	Availability of drinking water	Working and camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Provided
14	Waste disposal	Pre-identified disposal location (identified by Contractor in compliance to relevant regulation and approved by DSC) shall be part of Comprehensive Waste Disposal Plan Solid Waste Management Plan. Contractor shall ensure that waste shall not be disposed off near the water course or agricultural land, Orchards and Natural Habitats like Grasslands.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	To be Comply Utilization of excess earth to be done.
15	Stockpiling of construction materials	Stockpiling of construction materials and excavated earth or silt in case of construction of river bed filtration does not impact obstruct the drainage and Stockpiles will be covered to protect from dust and erosion.	Selected location and facility	Project Locations	Contractor	Site checking	Environment Specialist of DSC and Environment Officer of PMU	Partially complied. Instruction given to contractor
16	Access to Site	Contractors shall ensure that all side drains and scour check walls on access and haul roads are functioning properly and are well maintained. Contractors shall ensure that access roads are maintained in good condition	<ul style="list-style-type: none"> Involvement of traffic dept. Road closure planning Maintenance of road 	Specific project location	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Instruction given to contractor
17	Quarry Operations	Contractor shall finalize the quarry for procurement of construction materials after assessment of the availability of sufficient quantity of materials, quality and other logistic arrangements. The Contractor shall obtain materials from approved quarries only after consent of the Department of Mines and Geology and District Administration.	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction Contractor documentation 	Quarries and material source areas	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Approval obtained from PMU and DSC. Purchase from local

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
								market
18	Arrangement for Construction Water	The contractor shall use ground/surface water as a source of water for the construction with the written consent from the concerned Department. The Contractor shall provide a list of locations and type of sources from where water for construction shall be extracted.	Water source locations	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	To be arranged
19	Soil/land Erosion	Slope protection measures will be undertaken as per design to control soil erosion. There shall be a periodic checking of the site's drainage system by DSC, PIU/IA and PMU to ensure that the water flow is unobstructed.	Slope protection work	Construction locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Will be done as per requirement and site condition
20	Water Pollution from Construction Wastes	The Contractor shall take all precautionary measures to prevent entering of wastewater into streams, water bodies or the irrigation system during construction. Waste will be disposed of to a suitable waste site in accordance with Hazardous Wastes (Management, Handling and Transboundary movement) Rules, 2008 and amendments till date and applicable norms	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged near water source
21	Water Pollution from Fuel and Lubricants	The Contractor shall ensure that all construction vehicle parking locations, fuel/ lubricants storage sites, vehicle, machinery and equipment maintenance and refueling sites shall be located at least 300 m away from rivers/streams and irrigation canal/ponds if any	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per requirement. Instruction given
22	Soil Pollution due to fuel and lubricants, construction	The fuel storage and vehicle cleaning area will be stationed such that spillage of fuels and lubricants does not contaminate the ground. All pollution parameters will be monitored as per monitoring	<ul style="list-style-type: none"> Soil pollution-contamination of ground 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per requirement. Instruction

SI. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	waste	plan.						given
23	Generation of dust	The contractor will take every precaution to reduce the levels of dust at construction site. Regular sprinkling of water and Stockpiles of soil will be kept covered in such a manner to minimize dust generation	<ul style="list-style-type: none"> • Location of stockpiles • Complaints from sensitive receptors • Monitoring data • Water sprinkling arrangement • Cover materials 	Project locations	Contractor	<ul style="list-style-type: none"> • Checking of records • Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied Location of stockpiles selected. Covering of materials will be considered Water sprinkling to be done. Base line and during construction air quality monitoring done as per EMP
24	Emission from Construction Vehicles, Equipment and Machinery	All vehicles, equipment and machinery used for construction shall confirm to the relevant Bureau of India Standard (BIS) norms. The discharge standards promulgated under the Environment Protection Act, 1986 shall be strictly adhered to. The use of silent/quiet equipment compliant with India ambient noise standards and standards specified for manufacturers shall be encouraged in the sub Project. The Contractor shall maintain a record of PUC for all vehicles and machinery used during the contract period which shall be produced for verification whenever required.	<ul style="list-style-type: none"> • Heavy equipment and machinery with air pollution control • Availability of PUC certificate 	Project locations	Contractor	<ul style="list-style-type: none"> • Checking of records • Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	PUC certificate collected partially
25	Noise Pollution	The Contractor shall confirm that all Construction	<ul style="list-style-type: none"> • Complaints from 	Project	Contractor	<ul style="list-style-type: none"> • Checking 	Environment	Complied

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		<p>equipment used in construction shall strictly conform to the MoEF/CPCB noise standards and all Vehicles and equipment used in construction shall be fitted with exhaust silencers.</p> <p>At the construction sites noisy construction work such as crushing, operation of DG sets, use of high noise generation equipment shall be stopped during the night time between 10.00 pm to 6.00 am.</p> <p>Noise limits for construction equipment used in this project will be in conformity to the BIS/SPCB/CPCB standards</p> <p>Regular monitoring of ambient noise levels to ensure compliance to Uttarakhand Environment Protection & Pollution Control Board standards.</p>	<p>sensitive receptors</p> <ul style="list-style-type: none"> Use of silencers in noise-producing equipment and sound barriers Monitoring data 	Locations		<p>of records</p> <ul style="list-style-type: none"> Visual inspection of sites 	Specialist of DSC and Environment Officer of PMU	No such noise producing machinery mobilized at site PPE utilizing partially. Base line monitoring done. During construction monitoring also done
26	Material Handling at Site	<p>Workers Employed on mixing cement, lime mortars, concrete etc., will be provided with protective footwear and protective masks and goggles.</p> <p>Workers, who are engaged in welding works, will be provided with welder's protective eye-shields.</p> <p>Workers engaged in stone breaking activities will be provided with protective goggles, masks, and clothing.</p> <p>All concrete mixing must take place on a designated, impermeable surface.</p>	Available protective equipments	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Partially complied. Instruction given to contractor for full compliance
27	Damage, and disturbance to other infrastructure in the construction site	<p>Confirm location of infrastructure. Finalize alignment in coordination with agencies like Uttarakhand Power Corporation Limited, Bharat Sanchar Nigam Limited, etc. Ensure prior permission of respective agency</p> <p>Realign pipelines, if required and subsequently revise IEE</p>	List of affected utilities / infrastructure if any and operators	Specific project location	Contractor	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Not required now. Utility shifting plan (if any) will be developed and

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		Provide public information in case of service disruptions						implemented with progress of work
28	Disposal of Construction Waste / Debris / Cut Material	The Contractor shall confirm that Safe disposal of the construction waste will be ensured in the pre-identified disposal locations. In no case, any construction waste will be disposed around the project site indiscriminately.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	To be Comply Utilization of excess earth and demolish waste to be done.
29	Disruption / cessation of existing water supply systems due to construction activity.	Care to be taken during improvement of existing water supply systems, so that disruption in existing water supply would not occur. Tentative schedule of closure should be known to affected people prior to cessation of water supply. In case disruption of water supply exceeds the intimated schedule, arrangement for supply of potable water should be made.	<ul style="list-style-type: none"> Schedule of closure 	Project site	Contractor, PIU	Checking of records Visual observation	Environment Specialist of DSC and Environment Officer of PMU	Not required as per present nature of work
30	Safety Measures During Construction	Personal Protective Equipment for workers on the project and adequate safety measures for workers during handling of materials at site will be taken up. The contractor has to comply with all regulations regarding safe scaffolding, ladders, working platforms, gangway, stairwells, excavations, trenches and safe means of entry and egress. The contractor has to comply with all regulations for the safety of workers. Precaution will be taken to prevent danger of the workers from fire, etc. First aid treatment will be made available for all injuries likely to be sustained during the course of	<ul style="list-style-type: none"> Site-specific Health and Safety (H&S) Plan Equipped first-aid stations; Medical insurance coverage for workers Supplies of potable drinking water; Record of H&S orientation 	Project Locations	Contractor	Document check and visual observation	Environment Specialist of DSC and Environment Officer of PMU	PPE used by contractor partially, First aid box available Safety tape / barricade not provided Overall partially

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		work. Contractor shall also organize periodic visits by a qualified registered medical practitioner to the site and workers camp. Contact information of Doctor, availability & location of first aid box shall be displayed in appropriate language both at work site and workers camp. The Contractor will also ensure that the interests of the community are preferably not disturbed, and if unavoidable then disturbed to the minimum. Provide traffic management personnel, barricade, appropriate signage and safety information in and around the construction site and prevent local people entering into the construction site.	<ul style="list-style-type: none"> trainings Personal protective equipments Sign boards for comply public safety Complaints from sensitive receptors Number of signages placed at subproject location 					complied
31	Clearing of Construction of Camps and Restoration	Contractor to prepare site restoration plans for approval by the Engineer. The plan is to be implemented by the contractor prior to demobilization.	Site restoration plan	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Instruction provided to contractor during training
32	Risk of archaeological chance finds	Strictly follow the protocol for chance finds in any excavation work; Request FPIU/DSC or any authorized person with archaeological field training to observe excavation; Stop work immediately to allow further investigation if any finds are suspected; and Inform FPIU/DSC, and take any action they require ensuring its removal or protection in situ.	Chance find protocol	Project Locations	Contractor	Checking of record	Environment Specialist of DSC and Environment Officer of PMU	Not required till date
33	Conflict with locals	Contractor shall ensure that mostly the local labourers are employed and migratory laborer shall be employed only in case of unavoidable circumstances.	Employment record	Project Locations	Contractor	Checking of records	Environment Specialist of DSC and Environment Officer of PMU	Complied Local labours are employed

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34	Environment Safeguard Officer	Contractor shall appoint one full-time suitably qualified and experienced Environment and Safety Officer who shall be responsible for assisting contractor in implementation of EMP, community liaisoning, consultations with interested/affected parties, reporting and grievance redressal on day-to-day basis. This environment and safety officer will be at site till all works related to the project including demobilization are completed.	Available Environment and safety officer	Project site/ Office	Contractor	Observation, checking of presence and activity	Environment Specialist of DSC and Environment Officer of PMU	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc.**at Karnprayag**
Package No. :UK/UEAP-WSS-GW/01 (Lot 2)
Physical progress:7.22 %

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
Site Establishment and Preliminary Activities phase								
1	Legislation, Permits and Agreements	In all instances, EA, IA contractors and consultants must remain in compliance with relevant environmental legislation of India at the national, state and local levels. Proof of compliance to statutory requirements must be forwarded by the facility owner and/or contractor to PMU/PIU in relation to hot mixing, stone crushers, diesel generators etc. A copy of the EMP must be kept on site during the construction period	EMP kept at site NOC from competent authority	All project sites	DSC/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	NOC not required EMP available with PIU
2	Education of site staff on general and Environmental Conduct	Ensure that all site personnel have a basic level of environmental awareness training Staff operating equipment (such as excavators, loaders, etc.) shall be adequately trained and sensitized to any potential hazards associated with their task No operator shall be permitted to operate critical items of mechanical equipment without having been trained by the Contractor.	Documentation – Training and awareness	-	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied Site Safety training arranged by Environment Specialist of DSC Tool box training will be required on regular basis
3	Social Impacts	Open liaison channels shall be established between the Site owner, operator, the contractors and interested and affected parties such that any queries, complaints or suggestions pertaining to	Sign boards Project information	-	DSC/PIU	Materials and records on awareness training	Environment Specialist of DSC and Environment	To be comply Not done

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		environmental management aspects can be dealt with quickly and by the appropriate person(s). Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints.	disseminated			program	Officer of PMU	
4	Lack of sufficient planning to assure long term sustainability of the improvements and ensure protection of the assets created and the architectural/archaeological character of the surroundings	Design will include provisions for ensuring effective maintenance and protection of the assets created so as to ensure the long term sustainability.	Maintenance procedure as per design	-	PMU/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design
5	Layout of components and its location to avoid impacts on the aesthetics, sensitive environmental areas / attributes of the site	The project components siting will avoid impacts on the aesthetics of the site, ensure minimal impacts and in compliance with statutory and regulatory requirements.	Layout of components	All project locations	PMU/PIU/ DSC	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
6	Selection of materials and construction technologies, if not carefully	Selection of materials will be according to specification and from approved sources Procurement of all material according to the material specification of the contract document and sourced from licensed and approved sources.	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction Contractor documents 	Material source sites	Contractor, PIU, DSC	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	PMU	Under compliance Approval obtained/ or to be obtained

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	chosen, will adversely impact the aesthetic appeal of the destinations		ntation					om PMU and DSC.
7	Socio cultural resources- Ground disturbance can uncover and damage archaeological and historical remains`	There is not such location anticipated on the project site. In case of chance of finding such location, Consult Archaeological Survey of India (ASI) and/or concerned dept. of Uttarakhand Govt. as applicable to obtain an expert assessment of the archaeological potential of the site	Chance find protocol	-	PIU, PMU	Site observation, document checking	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per requirement
8	Integration of energy efficiency and energy conservation programs in design of sub-project components	The detailed designs for the sub-project components shall ensure that environmental sustainability principles, including energy efficiency, resource recycling, waste minimization, rainwater harvesting etc.	Detailed design	-	DSC, PMU	Document checking and site feasibility	PMU	Under compliance
9	Site clearance activities, including delineation of construction areas	Any removal of vegetation or tree felling shall be done after taking statutory permissions if required. All works shall be carried out such that the damage or disruption of flora other than those identified for cutting is minimum. Only ground cover/shrubs that impinge directly on the permanent works or necessary temporary works shall be removed with prior approval from the Environmental Expert of DSC All areas used for temporary construction	Necessary permission/ NOC	-	DSC, PIU	Document checking	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Restoration will be done

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		operations will be subject to complete restoration to their former condition with appropriate rehabilitation procedures as per the rehabilitation plan						
10	Blockage of access in residential area, commercial area and sensitive location like school, college, hospitals and court	Contractor will identify such location in the preconstruction stage and prepare plan approved by DSC to minimize inconvenience to the people.	Complain from sensitive receptors	Construction location	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per site condition particularly pipe laying area Work just started
11	Slope protection near reservoir and intake well	Retaining wall will constructed near reservoir and intake well	Protection work	-	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
Construction phase								
12	Construction Camps - Location, Selection, Design and Layout	Siting of the construction camps, labour camp, and stockpiles shall be as per the guidelines of UEPPCB, ULB, village panchayat and any other applicable guideline to the local site. The contractor will assess the impact of the construction camp and should be acceptable to the PIU/ IA/PMU. Construction camps will be located away from settlements and drainage from and through the camps will not endanger any domestic or public water supply. Construction camps including sanitation facilities must be adequately drained. Sewage management through septic tanks and solid waste management through local ULB system	Selected location for construction work camps and stockpile area,	Construction camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Rented house arranged for labourer All facilities provided as per EMP

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		or other alternate measures.						
13	Drinking water availability	Sufficient supply of potable water to be provided and maintained as per the standards, requirements, test methods and sampling procedure according to IS:10500.	Availability of drinking water	Working and camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	To be provided at working and camp site
14	Waste disposal	Pre-identified disposal location (identified by Contractor in compliance to relevant regulation and approved by DSC) shall be part of Comprehensive Waste Disposal Plan Solid Waste Management Plan. Contractor shall ensure that waste shall not be disposed off near the water course or agricultural land, Orchards and Natural Habitats like Grasslands.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Utilization of excess earth to be done. Pipe laying work yet to be start
15	Stockpiling of construction materials	Stockpiling of construction materials and excavated earth or silt in case of construction of river bed filtration does not impact obstruct the drainage and Stockpiles will be covered to protect from dust and erosion.	Selected location and facility	Project Locations	Contractor	Site checking	Environment Specialist of DSC and Environment Officer of PMU	Partially complied. Instruction given to contractor
16	Access to Site	Contractors shall ensure that all side drains and scour check walls on access and haul roads are functioning properly and are well maintained. Contractors shall ensure that access roads are maintained in good condition	<ul style="list-style-type: none"> Involvement of traffic dept. Road closure planning Maintenance of road 	Specific project location	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Instruction given to contractor
17	Quarry Operations	Contractor shall finalize the quarry for procurement of construction materials after assessment of the availability of sufficient quantity of materials, quality and other logistic arrangements. The Contractor shall obtain materials from approved quarries only after consent of the	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction Contractor documentation 	Quarries and material source areas	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Approval obtained from PMU and DSC Purchase from local

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		Department of Mines and Geology and District Administration.						markets
18	Arrangement for Construction Water	The contractor shall use ground/surface water as a source of water for the construction with the written consent from the concerned Department. The Contractor shall provide a list of locations and type of sources from where water for construction shall be extracted.	Water source locations	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged
19	Soil/land Erosion	Slope protection measures will be undertaken as per design to control soil erosion. There shall be a periodic checking of the site's drainage system by DSC, PIU/IA and PMU to ensure that the water flow is unobstructed.	Slope protection work	Construction locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Will be done as per requirement and site condition
20	Water Pollution from Construction Wastes	The Contractor shall take all precautionary measures to prevent entering of wastewater into streams, water bodies or the irrigation system during construction. Waste will be disposed of to a suitable waste site in accordance with Hazardous Wastes (Management, Handling and Transboundary movement) Rules, 2008 and amendments till date and applicable norms	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged near water source
21	Water Pollution from Fuel and Lubricants	The Contractor shall ensure that all construction vehicle parking locations, fuel/ lubricants storage sites, vehicle, machinery and equipment maintenance and refueling sites shall be located at least 300 m away from rivers/streams and irrigation canal/ponds if any	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per requirement. Instruction given
22	Soil Pollution due to fuel and lubricants, construction	The fuel storage and vehicle cleaning area will be stationed such that spillage of fuels and lubricants does not contaminate the ground. All pollution parameters will be monitored as per monitoring	<ul style="list-style-type: none"> Soil pollution-contamination of ground 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per requirement. Instruction

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	waste	plan.						given
23	Generation of dust	The contractor will take every precaution to reduce the levels of dust at construction site. Regular sprinkling of water and Stockpiles of soil will be kept covered in such a manner to minimize dust generation	<ul style="list-style-type: none"> • Location of stockpiles • Complaints from sensitive receptors • Monitoring data • Water sprinkling arrangement • Cover materials 	Project locations	Contractor	<ul style="list-style-type: none"> • Checking of records • Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied Location of stockpiles selected. Covering of materials will be considered Water sprinkling to be done. Base line air quality monitoring done and during construction monitoring will be done after monsoon and as per EMP.
24	Emission from Construction Vehicles, Equipment and Machinery	All vehicles, equipment and machinery used for construction shall confirm to the relevant Bureau of India Standard (BIS) norms. The discharge standards promulgated under the Environment Protection Act, 1986 shall be strictly adhered to. The use of silent/quiet equipment compliant with India ambient noise standards and standards specified for manufacturers shall be encouraged in the sub Project.	<ul style="list-style-type: none"> • Heavy equipment and machinery with air pollution control • Availability of PUC certificate 	Project locations	Contractor	<ul style="list-style-type: none"> • Checking of records • Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	PUC certificate not submitted by contractor Work just started

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		The Contractor shall maintain a record of PUC for all vehicles and machinery used during the contract period which shall be produced for verification whenever required.						
25	Noise Pollution	<p>The Contractor shall confirm that all Construction equipment used in construction shall strictly conform to the MoEF/CPCB noise standards and all Vehicles and equipment used in construction shall be fitted with exhaust silencers.</p> <p>At the construction sites noisy construction work such as crushing, operation of DG sets, use of high noise generation equipment shall be stopped during the night time between 10.00 pm to 6.00 am.</p> <p>Noise limits for construction equipment used in this project will be in conformity to the BIS/SPCB/CPCB standards</p> <p>Regular monitoring of ambient noise levels to ensure compliance to Uttarakhand Environment Protection & Pollution Control Board standards.</p>	<ul style="list-style-type: none"> Complaints from sensitive receptors Use of silencers in noise-producing equipment and sound barriers Monitoring data 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied No such noise producing machinery mobilized at site PPE utilizing partially. Base line monitoring done. During construction monitoring to be done
26	Material Handling at Site	<p>Workers Employed on mixing cement, lime mortars, concrete etc., will be provided with protective footwear and protective masks and goggles.</p> <p>Workers, who are engaged in welding works, will be provided with welder's protective eye-shields.</p> <p>Workers engaged in stone breaking activities will be provided with protective goggles, masks, and clothing.</p> <p>All concrete mixing must take place on a designated, impermeable surface.</p>	Available protective equipments	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Partially complied. Instruction given to contractor for full compliance

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
27	Damage, and disturbance to other infrastructure in the construction site	Confirm location of infrastructure. Finalize alignment in coordination with agencies like Uttarakhand Power Corporation Limited, Bharat Sanchar Nigam Limited, etc. Ensure prior permission of respective agency Realign pipelines, if required and subsequently revise IEE Provide public information in case of service disruptions	List of affected utilities / infrastructure if any and operators	Specific project location	Contractor	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Not required now. Utility shifting plan (if any) will be developed and implemented with progress of work.
28	Disposal of Construction Waste / Debris / Cut Material	The Contractor shall confirm that Safe disposal of the construction waste will be ensured in the pre-identified disposal locations. In no case, any construction waste will be disposed around the project site indiscriminately.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors. 	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Utilization of excess earth and demolish waste done
29	Disruption / cessation of existing water supply systems due to construction activity.	Care to be taken during improvement of existing water supply systems, so that disruption in existing water supply would not occur. Tentative schedule of closure should be known to affected people prior to cessation of water supply. In case disruption of water supply exceeds the intimated schedule, arrangement for supply of potable water should be made.	<ul style="list-style-type: none"> Schedule of closure 	Project site	Contractor, PIU	Checking of records Visual observation	Environment Specialist of DSC and Environment Officer of PMU	Not required as per present nature of work
30	Safety Measures During Construction	Personal Protective Equipment for workers on the project and adequate safety measures for workers during handling of materials at site will be taken up. The contractor has to comply with all regulations regarding safe scaffolding, ladders, working platforms, gangway, stairwells, excavations, trenches and safe means of entry and egress.	<ul style="list-style-type: none"> Site-specific Health and Safety (H&S) Plan Equipped first-aid stations; Medical insurance coverage for workers 	Project Locations	Contractor	Document check and visual observation	Environment Specialist of DSC and Environment Officer of PMU	PPE used by contractor First aid box available Safety tape / barricade not

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		<p>The contractor has to comply with all regulations for the safety of workers. Precaution will be taken to prevent danger of the workers from fire, etc. First aid treatment will be made available for all injuries likely to be sustained during the course of work. Contractor shall also organize periodic visits by a qualified registered medical practitioner to the site and workers camp. Contact information of Doctor, availability & location of first aid box shall be displayed in appropriate language both at work site and workers camp.</p> <p>The Contractor will also ensure that the interests of the community are preferably not disturbed, and if unavoidable then disturbed to the minimum. Provide traffic management personnel, barricade, appropriate signage and safety information in and around the construction site and prevent local people entering into the construction site.</p>	<ul style="list-style-type: none"> Supplies of potable drinking water; Record of H&S orientation trainings Personal protective equipments Sign boards for comply public safety Complaints from sensitive receptors Number of signages placed at subproject location 					<p>provided</p> <p>Overall partially complied</p>
31	Clearing of Construction of Camps and Restoration	Contractor to prepare site restoration plans for approval by the Engineer. The plan is to be implemented by the contractor prior to demobilization.	Site restoration plan	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Instruction provided to contractor during training
32	Risk of archaeological chance finds	Strictly follow the protocol for chance finds in any excavation work; Request FPIU/DSC or any authorized person with archaeological field training to observe excavation; Stop work immediately to allow further investigation if any finds are suspected; and Inform FPIU/DSC, and take any action they require ensuring its removal or protection in situ.	Chance find protocol	Project Locations	Contractor	Checking of record	Environment Specialist of DSC and Environment Officer of PMU	Not required till date

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
33	Conflict with locals	Contractor shall ensure that mostly the local labourers are employed and migratory laborer shall be employed only in case of unavoidable circumstances.	Employment record	Project Locations	Contractor	Checking of records	Environment Specialist of DSC and Environment Officer of PMU	Complied Local labours are employed
34	Environment and Safeguards Officer (ESO)	Contractor shall appoint one full-time suitably qualified and experienced Environment and Safety Officer who shall be responsible for assisting contractor in implementation of EMP, community liaisoning, consultations with interested/affected parties, reporting and grievance redressal on day-to-day basis. This environment and safety officer will be at site till all works related to the project including demobilization are completed.	Available Environment and safety officer	Project site/ Office	Contractor	Observation, checking of presence and activity	Environment Specialist of DSC and Environment Officer of PMU	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc.at **Gauchar**
Package No. : UK/UEAP-WSS-GW/01 (Lot 3)
Physical Progress: 10.0 %

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
Site Establishment and Preliminary Activities phase								
1	Legislation, Permits and Agreements	In all instances, EA, IA contractors and consultants must remain in compliance with relevant environmental legislation of India at the national, state and local levels. Proof of compliance to statutory requirements must be forwarded by the facility owner and/or contractor to PMU/PIU in relation to hot mixing, stone crushers, diesel generators etc. A copy of the EMP must be kept on site during the construction period	EMP kept site NOC from competent authority	All project sites	DSC/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	NOC not required EMP available with PIU
2	Education of site staff on general and Environmental Conduct	Ensure that all site personnel have a basic level of environmental awareness training Staff operating equipment (such as excavators, loaders, etc.) shall be adequately trained and sensitized to any potential hazards associated with their task No operator shall be permitted to operate critical items of mechanical equipment without having been trained by the Contractor.	Documentation – Training and awareness	-	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied Site Safety training arranged by Environment Specialist of DSC Tool box training will be required on regular basis
3	Social Impacts	Open liaison channels shall be established between the Site owner, operator, the contractors and interested and affected parties such that any queries, complaints or suggestions pertaining to	Sign boards displayed Project information	-	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	To be comply Not done

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		environmental management aspects can be dealt with quickly and by the appropriate person(s). Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints.	disseminated					
4	Lack of sufficient planning to assure long term sustainability of the improvements and ensure protection of the assets created and the architectural/archaeological character of the surroundings	Design will include provisions for ensuring effective maintenance and protection of the assets created so as to ensure the long term sustainability.	Maintenance procedure as per design	-	PMU/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design
5	Layout of components and its location to avoid impacts on the aesthetics, sensitive environmental areas / attributes of the site	The project components siting will avoid impacts on the aesthetics of the site, ensure minimal impacts and in compliance with statutory and regulatory requirements.	Layout of components	All project locations	PMU/PIU/ DSC	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
6	Selection of materials and construction technologies, if not carefully	Selection of materials will be according to specification and from approved sources Procurement of all material according to the material specification of the contract document and sourced from licensed and approved sources.	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction Contractor documents 	Material source sites	Contractor, PIU, DSC	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	PMU	Under compliance Approval obtained/ or to be obtained

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	chosen, will adversely impact the aesthetic appeal of the destinations		ntation					om PMU and DSC.
7	Socio cultural resources- Ground disturbance can uncover and damage archaeological and historical remains`	There is not such location anticipated on the project site. In case of chance of finding such location, Consult Archaeological Survey of India (ASI) and/or concerned dept. of Uttarakhand Govt. as applicable to obtain an expert assessment of the archaeological potential of the site	Chance find protocol	-	PIU, PMU	Site observation, document checking	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per requirement
8	Integration of energy efficiency and energy conservation programs in design of sub-project components	The detailed designs for the sub-project components shall ensure that environmental sustainability principles, including energy efficiency, resource recycling, waste minimization, rainwater harvesting etc.	Detailed design	-	DSC, PMU	Document checking and site feasibility	PMU	Under compliance
9	Site clearance activities, including delineation of construction areas	Any removal of vegetation or tree felling shall be done after taking statutory permissions if required. All works shall be carried out such that the damage or disruption of flora other than those identified for cutting is minimum. Only ground cover/shrubs that impinge directly on the permanent works or necessary temporary works shall be removed with prior approval from the Environmental Expert of DSC All areas used for temporary construction	Necessary permission/ NOC	-	DSC, PIU	Document checking	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Restoration will be done

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		operations will be subject to complete restoration to their former condition with appropriate rehabilitation procedures as per the rehabilitation plan						
10	Blockage of access in residential area, commercial area and sensitive location like school, college, hospitals and court	Contractor will identify such location in the preconstruction stage and prepare plan approved by DSC to minimize inconvenience to the people.	Complain from sensitive receptors	Construction location	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per site condition particularly pipe laying area Work just started
11	Slope protection near reservoir and intake well	Retaining wall will constructed near reservoir and intake well	Protection work	-	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
Construction phase								
12	Construction Camps - Location, Selection, Design and Layout	Siting of the construction camps, labour camp, and stockpiles shall be as per the guidelines of UEPPCB, ULB, village panchayat and any other applicable guideline to the local site. The contractor will assess the impact of the construction camp and should be acceptable to the PIU/ IA/PMU. Construction camps will be located away from settlements and drainage from and through the camps will not endanger any domestic or public water supply. Construction camps including sanitation facilities must be adequately drained. Sewage management through septic tanks and solid waste management through local ULB system	Selected location for construction work camps and stockpile area,	Construction camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Labour camp to be arranged All facilities to be provided as per EMP

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		or other alternate measures.						
13	Drinking water availability	Sufficient supply of potable water to be provided and maintained as per the standards, requirements, test methods and sampling procedure according to IS:10500.	Availability of drinking water	Working and camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	To be provided at working and camp site
14	Waste disposal	Pre-identified disposal location (identified by Contractor in compliance to relevant regulation and approved by DSC) shall be part of Comprehensive Waste Disposal Plan Solid Waste Management Plan. Contractor shall ensure that waste shall not be disposed off near the water course or agricultural land, Orchards and Natural Habitats like Grasslands.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Utilization of excess earth to be done. Pipe laying work yet to be start
15	Stockpiling of construction materials	Stockpiling of construction materials and excavated earth or silt in case of construction of river bed filtration does not impact obstruct the drainage and Stockpiles will be covered to protect from dust and erosion.	Selected location and facility	Project Locations	Contractor	Site checking	Environment Specialist of DSC and Environment Officer of PMU	Partially complied. Instruction given to contractor.
16	Access to Site	Contractors shall ensure that all side drains and scour check walls on access and haul roads are functioning properly and are well maintained. Contractors shall ensure that access roads are maintained in good condition	<ul style="list-style-type: none"> Involvement of traffic dept. Road closure planning Maintenance of road 	Specific project location	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Instruction given to contractor
17	Quarry Operations	Contractor shall finalize the quarry for procurement of construction materials after assessment of the availability of sufficient quantity of materials, quality and other logistic arrangements. The Contractor shall obtain materials from approved quarries only after consent of the Department of Mines and Geology and District Administration.	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction Contractor documentation 	Quarries and material source areas	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Approval obtained from PMU and DSC Purchase from local

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
								markets
18	Arrangement for Construction Water	The contractor shall use ground/surface water as a source of water for the construction with the written consent from the concerned Department. The Contractor shall provide a list of locations and type of sources from where water for construction shall be extracted.	Water source locations	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged
19	Soil/land Erosion	Slope protection measures will be undertaken as per design to control soil erosion. There shall be a periodic checking of the site's drainage system by DSC, PIU/IA and PMU to ensure that the water flow is unobstructed.	Slope protection work	Construction locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Will be done as per requirement and site condition
20	Water Pollution from Construction Wastes	The Contractor shall take all precautionary measures to prevent entering of wastewater into streams, water bodies or the irrigation system during construction. Waste will be disposed of to a suitable waste site in accordance with Hazardous Wastes (Management, Handling and Transboundary movement) Rules, 2008 and amendments till date and applicable norms	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged near water source
21	Water Pollution from Fuel and Lubricants	The Contractor shall ensure that all construction vehicle parking locations, fuel/ lubricants storage sites, vehicle, machinery and equipment maintenance and refueling sites shall be located at least 300 m away from rivers/streams and irrigation canal/ponds if any	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per requirement. Instruction given
22	Soil Pollution due to fuel and lubricants, construction waste	The fuel storage and vehicle cleaning area will be stationed such that spillage of fuels and lubricants does not contaminate the ground. All pollution parameters will be monitored as per monitoring plan.	<ul style="list-style-type: none"> Soil pollution-contamination of ground 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per requirement. Instruction given

SI. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
23	Generation of dust	The contractor will take every precaution to reduce the levels of dust at construction site. Regular sprinkling of water and Stockpiles of soil will be kept covered in such a manner to minimize dust generation	<ul style="list-style-type: none"> Location of stockpiles Complaints from sensitive receptors Monitoring data Water sprinkling arrangement Cover materials 	Project locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied Location of stockpiles selected. Covering of materials will be considered Water sprinkling to be done. Base line air quality monitoring done and during construction monitoring will be done after monsoon and as per EMP
24	Emission from Construction Vehicles, Equipment and Machinery	All vehicles, equipment and machinery used for construction shall confirm to the relevant Bureau of India Standard (BIS) norms. The discharge standards promulgated under the Environment Protection Act, 1986 shall be strictly adhered to. The use of silent/quiet equipment compliant with India ambient noise standards and standards specified for manufacturers shall be encouraged in the sub Project. The Contractor shall maintain a record of PUC for all vehicles and machinery used during the	<ul style="list-style-type: none"> Heavy equipment and machinery with air pollution control Availability of PUC certificate 	Project locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	PUC certificate not submitted by contractor Work just started

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		contract period which shall be produced for verification whenever required.						
25	Noise Pollution	<p>The Contractor shall confirm that all Construction equipment used in construction shall strictly conform to the MoEF/CPCB noise standards and all Vehicles and equipment used in construction shall be fitted with exhaust silencers.</p> <p>At the construction sites noisy construction work such as crushing, operation of DG sets, use of high noise generation equipment shall be stopped during the night time between 10.00 pm to 6.00 am.</p> <p>Noise limits for construction equipment used in this project will be in conformity to the BIS/SPCB/CPCB standards</p> <p>Regular monitoring of ambient noise levels to ensure compliance to Uttarakhand Environment Protection & Pollution Control Board standards.</p>	<ul style="list-style-type: none"> Complaints from sensitive receptors Use of silencers in noise-producing equipment and sound barriers Monitoring data 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied No such noise producing machinery mobilized at site PPE utilizing partially. Base line monitoring done. During construction monitoring to be done
26	Material Handling at Site	<p>Workers Employed on mixing cement, lime mortars, concrete etc., will be provided with protective footwear and protective masks and goggles.</p> <p>Workers, who are engaged in welding works, will be provided with welder's protective eye-shields.</p> <p>Workers engaged in stone breaking activities will be provided with protective goggles, masks, and clothing.</p> <p>All concrete mixing must take place on a designated, impermeable surface.</p>	Available protective equipments	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied. Instruction given to contractor for the continuation of good material handling practices
27	Damage, and disturbance to other infrastructure in	Confirm location of infrastructure. Finalize alignment in coordination with agencies like Uttarakhand Power Corporation Limited, Bharat Sanchar Nigam Limited, etc. Ensure prior	List of affected utilities / infrastructure if any and operators	Specific project location	Contractor	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Not required now. Utility shifting plan (if any)

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	the construction site	permission of respective agency Realign pipelines, if required and subsequently revise IEE Provide public information in case of service disruptions						will be developed and implemented with progress of work
28	Disposal of Construction Waste / Debris / Cut Material	The Contractor shall confirm that Safe disposal of the construction waste will be ensured in the pre-identified disposal locations. In no case, any construction waste will be disposed around the project site indiscriminately.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Utilization of excess earth and demolish waste done
29	Disruption / cessation of existing water supply systems due to construction activity.	Care to be taken during improvement of existing water supply systems, so that disruption in existing water supply would not occur. Tentative schedule of closure should be known to affected people prior to cessation of water supply. In case disruption of water supply exceeds the intimated schedule, arrangement for supply of potable water should be made.	<ul style="list-style-type: none"> Schedule of closure 	Project site	Contractor, PIU	Checking of records Visual observation	Environment Specialist of DSC and Environment Officer of PMU	Not required as per present nature of work
30	Safety Measures During Construction	PersonalProtectiveEquipmentforworkersonthe projectandadequatesafety measuresforworkers duringhandlingofmaterialsatsitewillbetakenup. Thecontractorhastocomply withallregulationsregardingsafescaffolding,ladders, workingplatforms, gangway, stairwells,excavations,trenchesandsafemeansofen tryandegress. The contractor has to comply with all regulations for the safety of workers. Precaution will be taken to prevent danger of the workers from fire, etc. First aid treatment will be made available for all	<ul style="list-style-type: none"> Site-specific Health and Safety (H&S) Plan Equipped first-aid stations; Medical insurance coverage for workers Supplies of potable drinking water; Record of H&S 	Project Locations	Contractor	Document check and visual observation	Environment Specialist of DSC and Environment Officer of PMU	PPE used by contractor First aid box available Safety tape / barricade not provided Overall partially

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		<p>injuries likely to be sustained during the course of work. Contractor shall also organize periodic visits by a qualified registered medical practitioner to the site and workers camp. Contact information of Doctor, availability & location of first aid box shall be displayed in appropriate language both at work site and workers camp.</p> <p>The Contractor will also ensure that the interests of the community are preferably not disturbed, and if unavoidable then disturbed to the minimum. Provide traffic management personnel, barricade, appropriate signage and safety information in and around the construction site and prevent local people entering into the construction site.</p>	<p>orientation trainings</p> <ul style="list-style-type: none"> • Personal protective equipments • Sign boards for comply public safety • Complaints from sensitive receptors • Number of signages placed at subproject location 					complied
31	Clearing of Construction of Camps and Restoration	Contractor to prepare site restoration plans for approval by the Engineer. The plan is to be implemented by the contractor prior to demobilization.	Site restoration plan	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Instruction provided to contractor during training.
32	Risk of archaeological chance finds	Strictly follow the protocol for chance finds in any excavation work; Request FPIU/DSC or any authorized person with archaeological field training to observe excavation; Stop work immediately to allow further investigation if any finds are suspected; and Inform FPIU/DSC, and take any action they require ensuring its removal or protection in situ.	Chance find protocol	Project Locations	Contractor	Checking of record	Environment Specialist of DSC and Environment Officer of PMU	Not required till date
33	Conflict with locals	Contractor shall ensure that mostly the local labourers are employed and migratory laborer shall be employed only in case of unavoidable circumstances.	Employment record	Project Locations	Contractor	Checking of records	Environment Specialist of DSC and Environment Officer of PMU	Complied Local labours are employed

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
34	Environment and Safeguards Officer (ESO)	Contractor shall appoint one full-time suitably qualified and experienced Environment and Safety Officer who shall be responsible for assisting contractor in implementation of EMP, community liaisoning, consultations with interested/affected parties, reporting and grievance redressal on day-to-day basis. This environment and safety officer will be at site till all works related to the project including demobilization are completed.	Available Environment and safety officer	Project site/ Office	Contractor	Observation, checking of presence and activity	Environment Specialist of DSC and Environment Officer of PMU	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc.at **Uttarkashi**
Package No. : UK/UEAP-WSS-GW/01 (Lot 4)
Physical progress: 1% as work recently started on 24.06.2015

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
Site Establishment and Preliminary Activities phase								
1	Legislation, Permits and Agreements	In all instances, EA, IA contractors and consultants must remain in compliance with relevant environmental legislation of India at the national, state and local levels. Proof of compliance to statutory requirements must be forwarded by the facility owner and/or contractor to PMU/PIU in relation to hot mixing, stone crushers, diesel generators etc. A copy of the EMP must be kept on site during the construction period	EMP kept at site NOC from competent authority	All project sites	DSC/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	NOC not required EMP available with PIU
2	Education of site staff on general and Environmental Conduct	Ensure that all site personnel have a basic level of environmental awareness training Staff operating equipment (such as excavators, loaders, etc.) shall be adequately trained and sensitized to any potential hazards associated with their task No operator shall be permitted to operate critical items of mechanical equipment without having been trained by the Contractor.	Documentation – Training and awareness	-	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied Site Safety training arranged by Environment Specialist of DSC Tool box training will be required on regular basis
3	Social Impacts	Open liaison channels shall be established between the Site owner, operator, the contractors and interested and affected parties such that any queries, complaints or suggestions pertaining to environmental management aspects can be dealt	Sign boards to be displayed shortly as work recently started on 24 June, 2015. Project information	-	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	To be comply Not done

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		with quickly and by the appropriate person(s). Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints.	disseminated					
4	Lack of sufficient planning to assure long term sustainability of the improvements and ensure protection of the assets created and the architectural/archaeological character of the surroundings	Design will include provisions for ensuring effective maintenance and protection of the assets created so as to ensure the long term sustainability.	Maintenance procedure as per design	-	PMU/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design
5	Layout of components and its location to avoid impacts on the aesthetics, sensitive environmental areas / attributes of the site	The project components siting will avoid impacts on the aesthetics of the site, ensure minimal impacts and in compliance with statutory and regulatory requirements.	Layout of components	All project locations	PMU/PIU/ DSC	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
6	Selection of materials and construction technologies, if not carefully chosen, will	Selection of materials will be according to specification and from approved sources Procurement of all material according to the material specification of the contract document and sourced from licensed and approved sources.	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction Contractor documentation 	Material source sites	Contractor, PIU, DSC	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	PMU	Under compliance Approval obtained/ or to be obtained from PMU

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation and DSC.
	adversely impact the aesthetic appeal of the destinations							
7	Socio cultural resources- Ground disturbance can uncover and damage archaeological and historical remains`	There is not such location anticipated on the project site. In case of chance of finding such location, Consult Archaeological Survey of India (ASI) and/or concerned dept. of Uttarakhand Govt. as applicable to obtain an expert assessment of the archaeological potential of the site	Chance find protocol	-	PIU, PMU	Site observation, document checking	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per requirement
8	Integration of energy efficiency and energy conservation programs in design of sub-project components	The detailed designs for the sub-project components shall ensure that environmental sustainability principles, including energy efficiency, resource recycling, waste minimization, rainwater harvesting etc.	Detailed design	-	DSC, PMU	Document checking and site feasibility	PMU	Under compliance
9	Site clearance activities, including delineation of construction areas	Any removal of vegetation or tree felling shall be done after taking statutory permissions if required. All works shall be carried out such that the damage or disruption of flora other than those identified for cutting is minimum. Only ground cover/shrubs that impinge directly on the permanent works or necessary temporary works shall be removed with prior approval from the Environmental Expert of DSC All areas used for temporary construction operations will be subject to complete restoration	Necessary permission/ NOC	-	DSC, PIU	Document checking	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Restoration will be done

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		to their former condition with appropriate rehabilitation procedures as per the rehabilitation plan						
10	Blockage of access in residential area, commercial area and sensitive location like school, college, hospitals and court	Contractor will identify such location in the preconstruction stage and prepare plan approved by DSC to minimize inconvenience to the people.	Complain from sensitive receptors	Construction location	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per site condition particularly pipe laying area Work just started
11	Slope protection near reservoir and intake well	Retaining wall will constructed near reservoir and intake well	Protection work	-	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
Construction phase								
12	Construction Camps - Location, Selection, Design and Layout	Siting of the construction camps, labour camp, and stockpiles shall be as per the guidelines of UEPPCB, ULB, village panchayat and any other applicable guideline to the local site. The contractor will assess the impact of the construction camp and should be acceptable to the PIU/ IA/PMU. Construction camps will be located away from settlements and drainage from and through the camps will not endanger any domestic or public water supply. Construction camps including sanitation facilities must be adequately drained. Sewage management through septic tanks and solid waste management through local ULB system or other alternate measures.	Selected location for construction work camps and stockpile area,	Construction camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged in Govt. land All facilities-toilet, drinking water provided as per EMP

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
13	Drinking water availability	Sufficient supply of potable water to be provided and maintained as per the standards, requirements, test methods and sampling procedure according to IS:10500.	Availability of drinking water	Working and camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	To be provided at working sites
14	Waste disposal	Pre-identified disposal location (identified by Contractor in compliance to relevant regulation and approved by DSC) shall be part of Comprehensive Waste Disposal Plan Solid Waste Management Plan. Contractor shall ensure that waste shall not be disposed off near the water course or agricultural land, Orchards and Natural Habitats like Grasslands.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Utilization of excess earth to be done. Pipe laying work yet to be start
15	Stockpiling of construction materials	Stockpiling of construction materials and excavated earth or silt in case of construction of river bed filtration does not impact obstruct the drainage and Stockpiles will be covered to protect from dust and erosion.	Selected location and facility	Project Locations	Contractor	Site checking	Environment Specialist of DSC and Environment Officer of PMU	Partially complied. Instruction given to contractor
16	Access to Site	Contractors shall ensure that all side drains and scour check walls on access and haul roads are functioning properly and are well maintained. Contractors shall ensure that access roads are maintained in good condition	<ul style="list-style-type: none"> Involvement of traffic dept. Road closure planning Maintenance of road 	Specific project location	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Instruction given to contractor
17	Quarry Operations	Contractor shall finalize the quarry for procurement of construction materials after assessment of the availability of sufficient quantity of materials, quality and other logistic arrangements. The Contractor shall obtain materials from approved quarries only after consent of the Department of Mines and Geology and District Administration.	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction Contractor documentation 	Quarries and material source areas	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Approval obtained from PMU and DSC Purchase from local

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
								markets
18	Arrangement for Construction Water	The contractor shall use ground/surface water as a source of water for the construction with the written consent from the concerned Department. The Contractor shall provide a list of locations and type of sources from where water for construction shall be extracted.	Water source locations	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged
19	Soil/land Erosion	Slope protection measures will be undertaken as per design to control soil erosion. There shall be a periodic checking of the site's drainage system by DSC, PIU/IA and PMU to ensure that the water flow is unobstructed.	Slope protection work	Construction locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Will be done as per requirement and site condition
20	Water Pollution from Construction Wastes	The Contractor shall take all precautionary measures to prevent entering of wastewater into streams, water bodies or the irrigation system during construction. Waste will be disposed of to a suitable waste site in accordance with Hazardous Wastes (Management, Handling and Transboundary movement) Rules, 2008 and amendments till date and applicable norms	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged near water source
21	Water Pollution from Fuel and Lubricants	The Contractor shall ensure that all construction vehicle parking locations, fuel/ lubricants storage sites, vehicle, machinery and equipment maintenance and refueling sites shall be located at least 300 m away from rivers/streams and irrigation canal/ponds if any	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per requirement. Instruction given
22	Soil Pollution due to fuel and lubricants, construction	The fuel storage and vehicle cleaning area will be stationed such that spillage of fuels and lubricants does not contaminate the ground. All pollution parameters will be monitored as per monitoring	<ul style="list-style-type: none"> Soil pollution-contamination of ground 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per requirement. Instruction given

SI. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	waste	plan.						
23	Generation of dust	The contractor will take every precaution to reduce the levels of dust at construction site. Regular sprinkling of water and Stockpiles of soil will be kept covered in such a manner to minimize dust generation	<ul style="list-style-type: none"> • Location of stockpiles • Complaints from sensitive receptors • Monitoring data • Water sprinkling arrangement • Cover materials 	Project locations	Contractor	<ul style="list-style-type: none"> • Checking of records • Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied Location of stockpiles selected. Covering of materials will be considered Water sprinkling to be done. Base line air quality monitoring done and during construction monitoring will be done after monsoon and as per EMP
24	Emission from Construction Vehicles, Equipment and Machinery	All vehicles, equipment and machinery used for construction shall conform to the relevant Bureau of India Standard (BIS) norms. The discharge standards promulgated under the Environment Protection Act, 1986 shall be strictly adhered to. The use of silent/quiet equipment compliant with India ambient noise standards and standards specified for manufacturers shall be encouraged in the sub Project. The Contractor shall maintain a record of PUC for all vehicles and machinery used during the contract period which shall be produced	<ul style="list-style-type: none"> • Heavy equipment and machinery with air pollution control • Availability of PUC certificate 	Project locations	Contractor	<ul style="list-style-type: none"> • Checking of records • Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	PUC certificate not submitted by contractor

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		for verification whenever required.						
25	Noise Pollution	<p>The Contractor shall confirm that all Construction equipment used in construction shall strictly conform to the MoEF/CPCB noise standards and all Vehicles and equipment used in construction shall be fitted with exhaust silencers.</p> <p>At the construction sites noisy construction work such as crushing, operation of DG sets, use of high noise generation equipment shall be stopped during the night time between 10.00 pm to 6.00 am.</p> <p>Noise limits for construction equipment used in this project will be in conformity to the BIS/SPCB/CPCB standards</p> <p>Regular monitoring of ambient noise levels to ensure compliance to Uttarakhand Environment Protection & Pollution Control Board standards.</p>	<ul style="list-style-type: none"> Complaints from sensitive receptors Use of silencers in noise-producing equipment and sound barriers Monitoring data 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied No such noise producing machinery mobilized at site PPE utilizing partially. Base line monitoring done. During construction monitoring to be done
26	Material Handling at Site	<p>Workers Employed on mixing cement, lime mortars, concrete etc., will be provided with protective footwear and protective masks and goggles.</p> <p>Workers, who are engaged in welding works, will be provided with welder's protective eye-shields.</p> <p>Workers engaged in stone breaking activities will be provided with protective goggles, masks, and clothing.</p> <p>All concrete mixing must take place on a designated, impermeable surface.</p>	Available protective equipments	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Partially complied. Instruction given to contractor for full compliance
27	Damage, and disturbance to other infrastructure in the construction	Confirm location of infrastructure. Finalize alignment in coordination with agencies like Uttarakhand Power Corporation Limited, Bharat Sanchar Nigam Limited, etc. Ensure prior permission of respective agency	List of affected utilities / infrastructure if any and operators	Specific project location	Contractor	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Not required now. Utility shifting plan (if any) will be developed

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	site	Realign pipelines, if required and subsequently revise IEE Provide public information in case of service disruptions						and implemented with progress of work.
28	Disposal of Construction Waste / Debris / Cut Material	The Contractor shall confirm that Safe disposal of the construction waste will be ensured in the pre-identified disposal locations. In no case, any construction waste will be disposed around the project site indiscriminately.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Utilization of excess earth and demolish waste done
29	Disruption / cessation of existing water supply systems due to construction activity.	Care to be taken during improvement of existing water supply systems, so that disruption in existing water supply would not occur. Tentative schedule of closure should be known to affected people prior to cessation of water supply. In case disruption of water supply exceeds the intimated schedule, arrangement for supply of potable water should be made.	<ul style="list-style-type: none"> Schedule of closure 	Project site	Contractor, PIU	Checking of records Visual observation	Environment Specialist of DSC and Environment Officer of PMU	Not required as per present nature of work
30	Safety Measures During Construction	Personal Protective Equipment for workers on the project and adequate safety measures for workers during handling of materials at site will be taken up. The contractor has to comply with all regulations regarding safe scaffolding, ladders, working platforms, gangway, stairwells, excavations, trenches and safe means of entry and egress. The contractor has to comply with all regulations for the safety of workers. Precaution will be taken to prevent danger of the workers from fire, etc. First aid treatment will be made available for all injuries likely to be sustained during the course of work. Contractor shall also organize periodic visits by a qualified registered medical practitioner to the site and workers camp. Contact information of	<ul style="list-style-type: none"> Site-specific Health and Safety (H&S) Plan Equipped first-aid stations; Medical insurance coverage for workers Supplies of potable drinking water; Record of H&S orientation trainings Personal protective 	Project Locations	Contractor	Document check and visual observation	Environment Specialist of DSC and Environment Officer of PMU	PPE used partially by contractor First aid box not available at all working locations Safety tape / barricade not provided at all excavated sites Overall

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		Doctor, availability & location of first aid box shall be displayed in appropriate language both at work site and workers camp. The Contractor will also ensure that the interests of the community are preferably not disturbed, and if unavoidable then disturbed to the minimum. Provide traffic management personnel, barricade, appropriate signage and safety information in and around the construction site and prevent local people entering into the construction site.	<ul style="list-style-type: none"> equipments Sign boards for comply public safety Complaints from sensitive receptors Number of signages placed at subproject location 					partially complied
31	Clearing of Construction of Camps and Restoration	Contractor to prepare site restoration plans for approval by the Engineer. The plan is to be implemented by the contractor prior to demobilization.	Site restoration plan	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Instruction provided to contractor during training
32	Risk of archaeological chance finds	Strictly follow the protocol for chance finds in any excavation work; Request FPIU/DSC or any authorized person with archaeological field training to observe excavation; Stop work immediately to allow further investigation if any finds are suspected; and Inform FPIU/DSC, and take any action they require ensuring its removal or protection in situ.	Chance find protocol	Project Locations	Contractor	Checking of record	Environment Specialist of DSC and Environment Officer of PMU	Not required till date
33	Conflicts with locals	Contractor shall ensure that mostly the local labourers are employed and migratory laborer shall be employed only in case of unavoidable circumstances.	Employment record	Project Locations	Contractor	Checking of records	Environment Specialist of DSC and Environment Officer of PMU	Complied Local labours are employed
34	Environment and Safeguards Officer (ESO)	Contractor shall appoint one full-time suitably qualified and experienced Environment and Safety Officer who shall be responsible for assisting contractor in implementation of EMP, community liaisoning, consultations with interested/affected	Available Environment and safety officer	Project site/ Office	Contractor	Observation, checking of presence and activity	Environment Specialist of DSC and Environment Officer of PMU	Complied

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		parties, reporting and grievance redressal on day-to-day basis. This environment and safety officer will be at site till all works related to the project including demobilization are completed.						

Project: Water Supply - Construction of low level pump house, installation of raw water and clear water pumping machinery, Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains, Rehabilitation of WTP's Design, Supply, Construction and Commissioning of Infiltration Wells, Construction of Sump and Electrical and Instrumentation works at **Srinagar**
Package No. : UK/UEAP-WSS-GW/02
Physical Progress: 10.0 %

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
Site Establishment and Preliminary Activities phase								
1	Legislation, Permits and Agreements	In all instances, EA, IA contractors and consultants must remain in compliance with relevant environmental legislation of India at the national, state and local levels. Proof of compliance to statutory requirements must be forwarded by the facility owner and/or contractor to PMU/PIU in relation to hot mixing, stone crushers, diesel generators etc. A copy of the EMP must be kept on site during the construction period	EMP kept at site NOC from competent authority	All project sites	DSC/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	NOC not required EMP available with PIU
2	Education of site staff on general and Environmental Conduct	Ensure that all site personnel have a basic level of environmental awareness training Staff operating equipment (such as excavators, loaders, etc.) shall be adequately trained and sensitized to any potential hazards associated with their task No operator shall be permitted to operate critical items of mechanical equipment without having been trained by the Contractor.	Documentation – Training and awareness	-	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied Site Safety training arranged by Environment Specialist of DSC Tool box training will be required on regular basis
3	Social Impacts	Open liaison channels shall be established between the Site owner, operator, the contractors	Sign boards displayed at	-	DSC/PIU	Materials and records on awareness	Environment Specialist of DSC and	To be comply

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		and interested and affected parties such that any queries, complaints or suggestions pertaining to environmental management aspects can be dealt with quickly and by the appropriate person(s). Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints.	site Project information disseminated			training program	Environment Officer of PMU	Not done
4	Lack of sufficient planning to assure long term sustainability of the improvements and ensure protection of the assets created and the architectural/archaeological character of the surroundings	Design will include provisions for ensuring effective maintenance and protection of the assets created so as to ensure the long term sustainability.	Maintenance procedure as per design	-	PMU/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design
5	Layout of components and its location to avoid impacts on the aesthetics, sensitive environmental areas / attributes of the site	The project components siting will avoid impacts on the aesthetics of the site, ensure minimal impacts and in compliance with statutory and regulatory requirements.	Layout of components	All project locations	PMU/PIU/ DSC	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
6	Selection of materials and construction	Selection of materials will be according to specification and from approved sources Procurement of all material according to the	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials 	Material source sites	Contractor, PIU, DSC	<ul style="list-style-type: none"> Checking of records Visual inspection 	PMU	Under compliance Approval obtained/ or

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	technologies, if not carefully chosen, will adversely impact the aesthetic appeal of the destinations	material specification of the contract document and sourced from licensed and approved sources.	<ul style="list-style-type: none"> Construction Contractor documentation 			of sites		to be obtained from PMU and DSC.
7	Socio cultural resources- Ground disturbance can uncover and damage archaeological and historical remains`	There is not such location anticipated on the project site. In case of chance of finding such location, Consult Archaeological Survey of India (ASI) and/or concerned dept. of Uttarakhand Govt. as applicable to obtain an expert assessment of the archaeological potential of the site	Chance find protocol	-	PIU, PMU	Site observation, document checking	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per requirement
8	Integration of energy efficiency and energy conservation programs in design of sub-project components	The detailed designs for the sub-project components shall ensure that environmental sustainability principles, including energy efficiency, resource recycling, waste minimization, rainwater harvesting etc.	Detailed design	-	DSC, PMU	Document checking and site feasibility	PMU	Under compliance
9	Site clearance activities, including delineation of construction areas	Any removal of vegetation or tree felling shall be done after taking statutory permissions if required. All works shall be carried out such that the damage or disruption of flora other than those identified for cutting is minimum. Only ground cover/shrubs that impinge directly on the permanent works or necessary temporary works shall be removed with prior approval from	Necessary permission/ NOC	-	DSC, PIU	Document checking	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Restoration will be done

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		the Environmental Expert of DSC All areas used for temporary construction operations will be subject to complete restoration to their former condition with appropriate rehabilitation procedures as per the rehabilitation plan						
10	Blockage of access in residential area, commercial area and sensitive location like school, college, hospitals and court	Contractor will identify such location in the preconstruction stage and prepare plan approved by DSC to minimize inconvenience to the people.	Complain from sensitive receptors	Construction location	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per site condition particularly pipe laying area Work just started
11	Slope protection near reservoir and intake well	Retaining wall will constructed near reservoir and intake well	Protection work	-	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
Construction phase								
12	Construction Camps - Location, Selection, Design and Layout	Siting of the construction camps, labour camp, and stockpiles shall be as per the guidelines of UEPPCB, ULB, village panchayat and any other applicable guideline to the local site. The contractor will assess the impact of the construction camp and should be acceptable to the PIU/ IA/PMU. Construction camps will be located away from settlements and drainage from and through the camps will not endanger any domestic or public water supply. Construction camps including sanitation facilities must be adequately drained.	Selected location for construction work camps and stockpile area,	Construction camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged in Govt. land All facilities-toilet, drinking water provided as per EMP

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		Sewage management through septic tanks and solid waste management through local ULB system or other alternate measures.						
13	Drinking water availability	Sufficient supply of potable water to be provided and maintained as per the standards, requirements, test methods and sampling procedure according to IS:10500.	Availability of drinking water	Working and camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	To be provided at working sites
14	Waste disposal	Pre-identified disposal location (identified by Contractor in compliance to relevant regulation and approved by DSC) shall be part of Comprehensive Waste Disposal Plan Solid Waste Management Plan. Contractor shall ensure that waste shall not be disposed off near the water course or agricultural land, Orchards and Natural Habitats like Grasslands.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Utilization of excess earth to be done. Pipe laying work yet to be start
15	Stockpiling of construction materials	Stockpiling of construction materials and excavated earth or silt in case of construction of river bed filtration does not impact obstruct the drainage and Stockpiles will be covered to protect from dust and erosion.	Selected location and facility	Project Locations	Contractor	Site checking	Environment Specialist of DSC and Environment Officer of PMU	Partially complied. Instruction given to contractor
16	Access to Site	Contractors shall ensure that all side drains and scour check walls on access and haul roads are functioning properly and are well maintained. Contractors shall ensure that access roads are maintained in good condition	<ul style="list-style-type: none"> Involvement of traffic dept. Road closure planning Maintenance of road 	Specific project location	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Instruction given to contractor
17	Quarry Operations	Contractor shall finalize the quarry for procurement of construction materials after assessment of the availability of sufficient quantity of materials, quality and other logistic arrangements. The Contractor shall obtain materials from	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction 	Quarries and material source areas	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Approval obtained from PMU and DSC

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		approved quarries only after consent of the Department of Mines and Geology and District Administration.	Contractor documentation					Purchase from local markets
18	Arrangement for Construction Water	The contractor shall use ground/surface water as a source of water for the construction with the written consent from the concerned Department. The Contractor shall provide a list of locations and type of sources from where water for construction shall be extracted.	Water source locations	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged
19	Soil/land Erosion	Slope protection measures will be undertaken as per design to control soil erosion. There shall be a periodic checking of the site's drainage system by DSC, PIU/IA and PMU to ensure that the water flow is unobstructed.	Slope protection work	Construction locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Will be done as per requirement and site condition
20	Water Pollution from Construction Wastes	The Contractor shall take all precautionary measures to prevent entering of wastewater into streams, water bodies or the irrigation system during construction. Waste will be disposed of to a suitable waste site in accordance with Hazardous Wastes (Management, Handling and Transboundary movement) Rules, 2008 and amendments till date and applicable norms	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged near water source
21	Water Pollution from Fuel and Lubricants	The Contractor shall ensure that all construction vehicle parking locations, fuel/ lubricants storage sites, vehicle, machinery and equipment maintenance and refueling sites shall be located at least 300 m away from rivers/streams and irrigation canal/ponds if any	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per requirement. Instruction given
22	Soil Pollution due to fuel and lubricants,	The fuel storage and vehicle cleaning area will be stationed such that spillage of fuels and lubricants does not contaminate the ground. All pollution	<ul style="list-style-type: none"> Soil pollution-contamination of ground 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment	To be comply as per requirement.

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	construction waste	parameters will be monitored as per monitoring plan.					Officer of PMU	Instruction given
23	Generation of dust	The contractor will take every precaution to reduce the levels of dust at construction site. Regular sprinkling of water and Stockpiles of soil will be kept covered in such a manner to minimize dust generation	<ul style="list-style-type: none"> • Location of stockpiles • Complaints from sensitive receptors • Monitoring data • Water sprinkling arrangement • Cover materials 	Project locations	Contractor	<ul style="list-style-type: none"> • Checking of records • Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied Location of stockpiles selected. Covering of materials will be considered Water sprinkling to be done. Base line air quality monitoring done and during construction monitoring will be done after monsoon and as per EMP
24	Emission from Construction Vehicles, Equipment and Machinery	All vehicles, equipment and machinery used for construction shall conform to the relevant Bureau of India Standard (BIS) norms. The discharge standards promulgated under the Environment Protection Act, 1986 shall be strictly adhered to. The use of silent/quiet equipment compliant with India ambient noise standards and standards specified for manufacturers shall be encouraged in	<ul style="list-style-type: none"> • Heavy equipment and machinery with air pollution control • Availability of PUC certificate 	Project locations	Contractor	<ul style="list-style-type: none"> • Checking of records • Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	PUC certificate not submitted by contractor

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		the sub Project. The Contractor shall maintain a record of PUC for all vehicles and machinery used during the contract period which shall be produced for verification whenever required.						
25	Noise Pollution	The Contractor shall confirm that all Construction equipment used in construction shall strictly conform to the MoEF/CPCB noise standards and all Vehicles and equipment used in construction shall be fitted with exhaust silencers. At the construction sites noisy construction work such as crushing, operation of DG sets, use of high noise generation equipment shall be stopped during the night time between 10.00 pm to 6.00 am. Noise limits for construction equipment used in this project will be in conformity to the BIS/SPCB/CPCB standards Regular monitoring of ambient noise levels to ensure compliance to Uttarakhand Environment Protection & Pollution Control Board standards.	<ul style="list-style-type: none"> Complaints from sensitive receptors Use of silencers in noise-producing equipment and sound barriers Monitoring data 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied No such noise producing machinery mobilized at site PPE utilizing partially. Base line monitoring done. During construction monitoring to be done
26	Material Handling at Site	Workers Employed on mixing cement, lime mortars, concrete etc., will be provided with protective footwear and protective masks and goggles. Workers, who are engaged in welding works, will be provided with welder's protective eye-shields. Workers engaged in stone breaking activities will be provided with protective goggles, masks, and clothing. All concrete mixing must take place on a designated, impermeable surface.	Available protective equipments	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Partially complied. Instruction given to contractor for full compliance
27	Damage, and	Confirm location of infrastructure. Finalize	List of affected	Specific	Contractor	Observation	Environment	Not required

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	disturbance to other infrastructure in the construction site	alignment in coordination with agencies like Uttarakhand Power Corporation Limited, Bharat Sanchar Nigam Limited, etc. Ensure prior permission of respective agency Realign pipelines, if required and subsequently revise IEE Provide public information in case of service disruptions	utilities / infrastructure if any and operators	project location		and document checking	Specialist of DSC and Environment Officer of PMU	now. Utility shifting plan (if any) will be developed and implemented with progress of work
28	Disposal of Construction Waste / Debris / Cut Material	The Contractor shall confirm that Safe disposal of the construction waste will be ensured in the pre-identified disposal locations. In no case, any construction waste will be disposed around the project site indiscriminately.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Utilization of excess earth and demolish waste done
29	Disruption / cessation of existing water supply systems due to construction activity.	Care to be taken during improvement of existing water supply systems, so that disruption in existing water supply would not occur. Tentative schedule of closure should be known to affected people prior to cessation of water supply. In case disruption of water supply exceeds the intimated schedule, arrangement for supply of potable water should be made.	<ul style="list-style-type: none"> Schedule of closure 	Project site	Contractor, PIU	Checking of records Visual observation	Environment Specialist of DSC and Environment Officer of PMU	Not required as per present nature of work
30	Safety Measures During Construction	Personal Protective Equipment for workers on the project and adequate safety measures for workers during handling of materials at site will be taken up. The contractor has to comply with all regulations regarding safe scaffolding, ladders, working platforms, gangway, stairwells, excavations, trenches and safe means of entry and egress. The contractor has to comply with all regulations for the safety of workers. Precaution will be taken to prevent danger of the workers from fire, etc. First aid treatment will be made available for all	<ul style="list-style-type: none"> Site-specific Health and Safety (H&S) Plan Equipped first-aid stations; Medical insurance coverage for workers Supplies of potable drinking water; Record of H&S 	Project Locations	Contractor	Document check and visual observation	Environment Specialist of DSC and Environment Officer of PMU	PPE used partially by contractor First aid box not available at all working locations Safety tape / barricade not provided at

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		<p>injuries likely to be sustained during the course of work. Contractor shall also organize periodic visits by a qualified registered medical practitioner to the site and workers camp. Contact information of Doctor, availability & location of first aid box shall be displayed in appropriate language both at work site and workers camp.</p> <p>The Contractor will also ensure that the interests of the community are preferably not disturbed, and if unavoidable then disturbed to the minimum. Provide traffic management personnel, barricade, appropriate signage and safety information in and around the construction site and prevent local people entering into the construction site.</p>	<ul style="list-style-type: none"> orientation trainings Personal protective equipments Sign boards for comply public safety Complaints from sensitive receptors Number of signages placed at subproject location 					<p>all excavated sites</p> <p>Overall partially complied</p>
31	Clearing of Construction of Camps and Restoration	Contractor to prepare site restoration plans for approval by the Engineer. The plan is to be implemented by the contractor prior to demobilization.	Site restoration plan	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Instruction provided to contractor during training
32	Risk of archaeological chance finds	Strictly follow the protocol for chance finds in any excavation work; Request FPIU/DSC or any authorized person with archaeological field training to observe excavation; Stop work immediately to allow further investigation if any finds are suspected; and Inform FPIU/DSC, and take any action they require ensuring its removal or protection in situ.	Chance find protocol	Project Locations	Contractor	Checking of record	Environment Specialist of DSC and Environment Officer of PMU	Not required till date
33	Conflicts with locals	Contractor shall ensure that mostly the local labourers are employed and migratory laborer shall be employed only in case of unavoidable circumstances.	Employment record	Project Locations	Contractor	Checking of records	Environment Specialist of DSC and Environment Officer of PMU	Complied Local labours are employed

Sl. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
34	Environment and Safeguards Officer (ESO)	Contractor shall appoint one full-time suitably qualified and experienced Environment and Safety Officer who shall be responsible for assisting contractor in implementation of EMP, community liaisoning, consultations with interested/affected parties, reporting and grievance redressal on day-to-day basis. This environment and safety officer will be at site till all works related to the project including demobilization are completed.	Available Environment and safety officer	Project site/ Office	Contractor	Observation, checking of presence and activity	Environment Specialist of DSC and Environment Officer of PMU	Complied

ANNEXURE– 4: ENVIRONMENT PERFORMANCE FACT SHEET

Sl. No.	Sub project Code	Name of Sub Project	Name of Contractor	EMP Part of contract Document (Yes / No)	EMP being Implemented (Yes / No)	Overall Status of EMP Implementation (Excellent, Satisfactory, Partially Satisfactory, Below Satisfactory)	Environmental Consents / Clearances Required						Nominati on of Environ mental & Social Safeguar d Officer by Contracto r (Nominat ed / Yet to be Nominat ed)	Dust Control (Excellent, Satisfactory, Partially Satisfactory, Below Satisfaction)	Labour Camp Management (Excellent, Satisfactory, Partially Satisfactory, Below Satisfaction)	Workers Safety Measures (Excellent, Satisfactory, Partially Satisfactory, Below Satisfaction)	Traffic Safety Measures (Excellent, Satisfactory, Partially Satisfactory, Below Satisfaction)
							Tree Cutting	Crusher	Batching Plant	Hot Mix Plant	Diesel Generator Set	Pollution Under Control (PUC) Certificates for Contractor's Vehicles					
1	(UK/UEAP-WSS-KU/01 Lot 1) Kapkot	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar&Dh archula	Kasmirial Construction Pvt. Ltd.	Yes	Yes	Satisfactory (Actual work started at site since 1 st April, 2015)	NR	NR	NR	NR	NR	Physical work continued.. Collection under process	Nominated	Not required pipe laying work not started	Rented house arranged	Satisfactory. PPEs provided by the contractors to workers for their safety.	Not required now

2	(UK/UEAP-WSS-KU/01 Lot 2) Bageshwar	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar&Dh archula	Kasmirial Construction Pvt. Ltd.	Yes	Yes	Partially satisfactory (Actual work started at site since 15 th April, 2015)	NR	NR	NR	NR	NR	Collection under process	Nominated	Not required pipe laying work not started	Not yet establish	Partially satisfactory. PPEs like helmets issued by the contractor, Gumboot and gloves need to arrange immediately to workers.	Not required now
3	(UK/UEAP-WSS-KU/01 Lot 3) Dharchula	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar&Dh archula	Kasmirial Construction Pvt. Ltd.	Yes	Yes	Satisfactory (Actual work started at site since 20 March, 2015)	NR	NR	NR	NR	NR	Collected partially	Nominated	Not required as per site condition	Rented house with toilet facility arranged	Satisfactory PPEs provided by the contractor to workers	Not required now

4	(UK/UEAP-WSS-GW/01- Lot 1) Rudraprayag	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc.	R. K. Engineers Sales Ltd.	Yes	Yes.	-	NR	NR	NR	NR	NR	To be collected as civil work not started at site	Nominated	Civil work yet not started	To be arranged by the contractor	To be arranged. Instruction given to contractor	Not required now
5	(UK/UEAP-WSS-GW/01- Lot 2) Karnprayag	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc.	R. K. Engineers Sales Ltd.	Yes	Yes	Partially Satisfactory (Actual work started at site since 25 th March, 2015)	NR	NR	NR	NR	NR	Collection under process	Nominated	To be done as per requirement	Rented house arranged with toilet facility	Partially Satisfactory PPE used as per requirement	Not required now
6	(UK/UEAP-WSS-GW/01- Lot 3) Gauchar	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. (R. K. Engineers Sales Ltd.	Yes	Yes	Partially Satisfactory (Actual work started at site since 25 th March, 2015)	NR	NR	NR	NR	NR	Physical work was start for 15 days and again stop due to rain. Instruction given to contractor for collection of the same	Nominated	Not required pipe laying work not started	Rented accommodation with separate toilet facility provided by the contractor	Satisfactory Partially Satisfactory PPEs not sufficient as per requirement	Not required now

7	(UK/UEAP-WSS-GW/01- Lot 4) Uttarkashi	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc.	R. K. Engineers Sales Ltd.	Yes	No	Civil Work recently started on 24 th June, 2015)	NR	NR	NR	NR	NR	To be collected soon as instruction given to contractor	Nominated	Not required now	To be arranged	To be arranged. Instruction given to contractor	Not required now
8	(UK/UEAP-WSS-GW/01- Lot 5) Devprayag	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc.		Yes	No	Civil work not started due to non-availability of NOC required for forest clearance (case in process for NOC)	19 trees to be felled along with diversion of 0.36 ha forest land (NOC under process	NR	NR	NR	NR	To be collected before starting of physical work. Instruction given to contractor	Nominated	Not applicable at this stage as civil work not started	To be arranged during construction stage	To be arranged. Instruction given to contractor	Not required now

9	UK/UEAP-WSS-GW/02) Srinagar	Construction of low level pump house, installation of raw water and clear water pumping machinery, Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains, Rehabilitation of WTP's Design, Supply, Construction and Commissioning of Infiltration Wells, Construction of Sump and Electrical and Instrumentation works	R. K. Engineers Sales Ltd.	Yes	Yes	Partially Satisfactory (Actual work started at site since 15 th April, 2015)	NR	NR	NR	NR	NR	Not submitted by contractor	Nominated	Not done	Partially Satisfactory with Risk Though Labour camp arranged in Govt. land with toilet facility but very risky due to its location in close proximity of the construction stage. Need to shift other place (instruction given to contractor & DSC).	Partially Satisfactory Though the PPEs are provided by the contractor but not sufficient at this stage.	Not required now
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ANNEXURE – 5: ENVIRONMENTAL MONITORING DATA

AIR QUALITY
Package - UK/UEAP-WSS-KU/01
 (Bageshwar, Dharchula and Kapkot)

A. Base Line Air Quality Monitoring

Sl. No.	Project Towns	Monitoring Location	Date of Monitoring	Parameters				
				PM _{2.5} (µg/m ³)	PM ₁₀ (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	CO (µg/m ³)
1.	Bageshwar	Near WTP (Thakurwada)	12.01.15-13.01.15	40.34	73.23	11.23	15.72	<0.2
		Residential Area(near infiltration Well)	11.01.15-12.01.15	43.23	76.98	10.34	13.29	<0.2
		Pipe Laying Area	10.01.15-11.01.15	40.45	72.89	9.87	12.21	<0.2
	Average			41.34	74.37	10.48	13.74	-
2.	Dharchula	Near Pipe Laying Area	12.01.15-13.01.15	40.89	70.68	8.73	11.21	<0.2
		Near primary School	12.01.15-13.01.15	43.32	73.98	11.23	14.48	<0.2
		Near construction of Reservoir	12.01.15-13.01.15	45.56	78.87	10.23	14.27	<0.2
		Residential Area	13.01.15-14.01.15	47.56	80.23	10.11	13.23	<0.2
	Average			44.33	75.94	10.07	13.29	-
3.	Kapkot	Near Infiltration Well	11.01.15-12.01.15	42.98	74.29	10.32	14.42	<0.2
		Near Pipe Laying Area	11.01.15-12.01.15	41.98	72.21	9.87	12.89	<0.2
		Near Construction Camp	10.01.15-11.01.15	43.87	75.87	8.98	13.72	<0.2
		Residential Area Near Infiltration well	10.01.15-11.01.15	44.78	78.77	10.29	14.78	<0.2
		Near High School Kapkot	10.01.15-11.01.15	43.23	73.87	9.92	13.72	<0.2
	Average			43.37	75.00	9.87	13.90	-
	STANDARD			60.0	100.0	80.0	80.0	2000.0 for 8 hrs

B. During Construction air quality monitoring

Project Towns	Monitoring Location	Date of monitoring	Parameters				
			PM _{2.5} (µg/m ³)	PM ₁₀ (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	CO (mg/m ³)
Dharchula	Manakhet 25 KL Tank Reservoir	10/06/2015 to 11/06/2015	46.78	85.23	14.33	20.38	<0.2
	GwalGaon - 300 KL Tank Reservoir	10/06/2015 to 11/06/2015	47.87	87.83	15.17	21.04	<0.2
	GwalGaon – Pipe Line Laying City Line Area	10/06/2015 to 11/06/2015	50.26	89.32	16.02	21.72	<0.2
	Galati Gadh Cross Well Galati Gadh Water Source (Gadhera)	11/06/2015 to 12/06/2015	52.98	92.91	16.58	22.87	<0.2
	Galati Gadh Horizontal Ruffing Filter Galati Gadh (Gadhera),	11/06/2015 to 12/06/2015	51.82	91.26	16.58	22.70	<0.2
	GhatKhola – 50 KL Tank Reservoir,	11/06/2015 to 12/06/2015	49.81	90.72	14.61	22.37	<0.2
Average			49.92	89.54	15.55	21.84	-
Kapkot	Tehsil Road -Maa Uma ShikshasSaraswatiMandir	08/06/2015 to 09/06/2015	48.28	88.25	11.52	19.72	<0.2
	Mandal Khet- (Bhurkuti) Labour Camp	08/06/2015 to 09/06/2015	47.28	87.92	12.08	19.88	<0.2
	Govt. Hospital - Pipe Laying with city line	08/06/2015 to 09/06/2015	49.76	88.98	13.49	21.87	<0.2
	Chheti - Intake Well (Up Stream)	09/06/2015 to 10/06/2015	50.87	87.93	12.92	22.70	<0.2
	Chheti - Intake Well (Down Stream)	09/06/2015 to 10/06/2015	51.28	89.37	11.80	22.37	<0.2
Average			49.49	88.49	12.36	21.31	-
STANDARD			60.0	100.0	80.0	80.0	2000.0 for 8hrs

Package - UK/UEAP-WSS-GW/01 & UK/UEAP-WSS-GW/02

Lot 1: Rudraprayag, Lot 2: Karnprayag, Lot 3: Gauchar, Lot 4: Uttarkashi, Lot 5: Devprayag&Lot 6: Srinagar

A. Base Line Air Quality Monitoring

Sl. No.	Project Towns	Monitoring Location	Date of Monitoring	Parameters				
				PM2.5 µg/m ³	PM10 µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
1	Srinagar	Near Intake Well	20-21/2/2015	44.45	79.98	10.54	15.56	<0.2
		Near Construction Of Reservoir	20-21/2/2015	46.39	81.28	11.43	16.92	<0.2
		Within The City Limits	20-21/2/2015	50.87	83.28	12.98	17.27	<0.2
		Residential Area Near River Bed Filtration	21-22/2/2015	47.98	82.11	9.45	14.49	<0.2
		Near Construction Camp	21-22/2/2015	45.23	81.89	10.23	13.92	<0.2
	Average			46.98	81.71	10.92	15.63	-
2	Rudrapryag	Residential Area	22-23/2/2015	43.21	85.92	9.75	14.23	<0.2
		Commercial Area	22-23/2/2015	47.98	89.34	11.67	17.29	<0.2
		Upstream Of Intake	22-23/2/2015	39.92	73.89	8.32	12.24	<0.2
		Downstream Of Intake	23-24/2/2015	41.29	75.34	8.72	13.11	<0.2
		Near Construction Camp	23-24/2/2015	45.65	79.37	9.21	14.72	<0.2
	Average			43.61	80.77	9.534	14.32	-
3	Karnapryag	Near Intake Well	23-24/2/2015	48.65	81.24	11.12	19.78	<0.2
		Near Construction Of Reservoir	24-25/2/2015	49.34	85.45	12.01	17.54	<0.2
		Within The City Limit	24-25/2/2015	50.34	87.29	12.65	18.25	<0.2
		Residential Area near River Bed Filtration	25-26/2/2015	47.45	86.29	11,45	16.76	<0.2
		Near Construction Camp	25-26/2/2015	48.28	90.12	12.25	15.55	<0.2
	Average			48.81	86.07	12.00	17.58	-
4	Uttarkashi	Near Intake Well	26-27/2/2015	45.27	85.24	10.18	14.72	<0.2
		Construction Of WTP In Jangara	26-27/02/2015	51.42	89.76	12.27	16.92	<0.2
		Construction Of WTP In Gufiara	26-27/02/2015	52.87	90.34	11.29	17.28	<0.2
		Construction Of WTP In Batwadi Road	27-28/02/2015	51.01	87.23	10.23	16.23	<0.2
		Near Construction Camp	27-28/2/2015	46.45	83.21	9.27	15.28	<0.2
	Average			49.40	87.15	10.65	16.09	-
5	Gauchar	Near Intake Well	28-01/03/2015	43.25	81.29	10.23	17.91	<0.2
		Near Market Area	28-01/03/2015	51.23	90.67	11.28	19.56	<0.2
		Near Laying Of Pipeline Area	28-01/03/2015	52.98	91.25	12.45	18.24	<0.2
		Residential Area	01-02/01/2015	49.56	87.10	11.44	16.98	<0.2
		Near Construction Camp	01-2/1/2015	44.98	84.86	9.34	14.29	<0.2
	Average			48.4	87.03	10.95	17.39	-
6	Devprayag	Within the city limits where pipe laying will be done	08/04/2014 to 09/04/2015	52.39	81.79	10.33	13.00	<0.2
		Near Construction of Reservoir	08/04/2014 to 09/04/2015	46.30	80.89	12.01	14.63	<0.2
		Location of Intake well/WTP	07/04/2014 to 08/04/2015	47.31	77.52	9.77	12.84	<0.2

Sl. No.	Project Towns	Monitoring Location	Date of Monitoring	Parameters				
				PM2.5 µg/m ³	PM10 µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
		Near construction Camp	07/04/2014 to 08/04/2015	47.40	80.11	12.89	15.82	<0.2
		Residential Area near the location of River Bed Filtration	09/04/2014 to 10/04/2015	52.98	83.94	11.73	16.47	<0.2
	Average			49.28	80.85	11.35	14.55	-
	STANDARD			60.0	100.0	80.0	80.0	2000.0 for 8 hrs

NOISE LEVEL
Package - UK/UEAP-WSS-KU/01
 Bagesshwar, Dharchula and Kapkot

A. Base line Noise Level Data

Sl. No.	Project Towns	Monitoring Location	Date of monitoring	Noise Level in dBA	
				Leq Day	Leq Night
1	Bageswar	Kathiawada (Intake)	11/01/2015 to 12/01/2015	60.01	50.87
		Kathayatbada (WTP)	11/01/2015 to 12/01/2015	61.98	45.46
	Average			60.99	48.16
2	Dharchula	Near Pipe Laying Area	12/01/2015 to 13/01/2015	60.11	45.3
		Near Primary School	12/01/2015 to 13/01/2015	61.18	45.81
		Near Construction of Reservoir	13/01/2015 to 14/01/2015	56.39	44.78
		Near Residential Area	13/01/2015 to 14/01/2015	54.79	42.83
	Average			58.11	44.68
3	Kapkot	Infiltration Well Area	10/01/2015 to 11/01/2015	55.16	42.62
		Pipe Laying Area	10/01/2015 to 11/01/2015	57.02	43.34
		Residential area near infiltration well	11/01/2015 to 12/01/2015	61.66	41.84
		Near Construction Camp	11/01/2015 to 12/01/2015	61.77	42.21
		Near High School Kapkot	11/01/2015 to 12/01/2015	60.99	41.69
	Average			59.32	42.34
	STANDARD	Day time: Industrial area:75; Commercial: 65 & Residential area: 55 Night time: Industrial area:70; Commercial: 55 & Residential area: 45			

B. During Construction Noise level monitoring

Sl. No.	Project Towns	Monitoring Location	Date of Monitoring	Noise Level in dBA	
				Leq Day	Leq Night
1	Dharchula	Manakhet 25 KL Tank Reservoir	10/06/2015 to 11/06/2015	61.84	47.88
		GwalGaon - 300 KL Tank Reservoir	10/06/2015 to 11/06/2015	60.36	46.13
		GwalGaon – Pipe Line Laying City Line Area	10/06/2015 to 11/06/2015	61.62	46.49
		Galati Gadh Cross Well Galati Gadh Water Source (Gadhera)	11/06/2015 to 12/06/2015	63.60	51.81
		Galati Gadh Horizontal Ruffing Filter Galati Gadh (Gadhera),	11/06/2015 to 12/06/2015	61.15	50.91
		GhatKhola – 50 KL Tank Reservoir,	11/06/2015 to 12/06/2015	60.87	50.35
	Average			61.71	48.64
2	Kapkot	Tehsil Road -Maa Uma ShikshaSaraswatiMandir	08/06/2015 to 09/06/2015	61.51	49.13
		Mandal Khet- (Bhurkuti) Labour Camp	08/06/2015 to 09/06/2015	61.91	50.18
		Govt. Hospital - Pipe Laying with city line	08/06/2015 to 09/06/2015	60.39	49.11
		Chheti - Intake Well (Up Stream)	09/06/2015 to 10/06/2015	57.94	46.59
		Chheti - Intake Well (Down Stream)	09/06/2015 to 10/06/2015	58.18	46.95
	Average			59.98	48.39
	STANDARD	Day time: Industrial area:75, Commercial: 65&Residential area: 55 Night time: Industrial area:70, Commercial: 55&Residential area: 45			

Package - UK/UEAP-WSS-GW/01 & UK/UEAP-WSS-GW/02

**Lot 1: Rudraprayag, Lot 2 : Karnprayag, Lot 3: Gauchar, Lot 4: Uttarkashi,
Lot 5: Devprayag&6. Srinagar**

Sl. No.	Project Towns	Monitoring Location	Date of Monitoring	Noise Level in dBA	
				Leq Day	Leq Night
1	Srinagar	Near Intake Well	20/02/2015-21/02/2015	52.73	43.19
		City Limit Where Pipe Laying Will Be Done	20/02/2015-21/02/2015	68.91	46.07
		Construction Of Reservoir	21/02/2015-22/02/2015	67.01	47.19
		Residential Area	21/02/2015-22/02/2015	63.92	47.87
		Near Construction Camp	21/02/2015-22/02/2015	61.14	48.01
	Average			62.74	46.46
2	Rudraprayag	Residential Area	22/02/2015-23/02/2015	61.14	48.01
		Upstream Of Intake	22/02/2015-23/02/2015	60.92	44.4
		Commercial Area	23/02/2015-24/02/2015	63.89	44.91
		Downstream Of Intake	23/02/2015-24/02/2015	60.78	47.71
		Near Construction Camp	24/02/2015-24/02/2015	61.14	48.01
	Average			61.57	46.61
3	Karnprayag	Near Intake Well	25/02/2015-26/02/2015	61.27	48.15
		Near Construction Of Reservoir	25/02/2015-26/02/2015	63.92	47.87
		Within The City Limit	26/02/2015-27/02/2015	60.71	48.53
		Residential Area	26/02/2015-27/02/2015	53.61	40.05
		Near Construction Camp	26/02/2015-27/02/2015	54.35	42.1
	Average			58.77	45.34
4	Uttarkashi	Near Intake Well	27/02/2015-28/02/2015	53.61	40.05
		Near Construction Of WTP Plant In Jangara	27/02/2015-28/02/2015	58.74	42.76
		Construction Of WTP Plant In Kufiara	27/02/2015-28/02/2015	59.56	47.87
		Construction Of WTP in Batwadi Road	28/02/2015-01/03/2015	66.17	47.87
		Near Construction Camp	28/02/2015-01/03/2015	58.8	47.84
	Average			59.37	45.28
5	Gauchar	Intake Well	29/02/2015-01/03/2015	53.41	42.55
		Near Market	29/02/2015-01/03/2015	61.14	48.01
		City Limit Pipe Laying Area	01/03/2015-02/03/2015	53.36	42.88
		Residential Area	01/03/2015-	53.6	39.86

Sl. No.	Project Towns	Monitoring Location	Date of Monitoring	Noise Level in dBA	
				Leq Day	Leq Night
			02/03/2015		
		Near Construction Camp	01/03/2015-03/03/2015	59.86	43.77
	Average			56.27	43.41
6	Devprayag	Location of Intake well/WTP	07/04/2015 - 08/04/2015	64.72	46.54
		Location of Construction of Reservoir	08/04/2015 - 09/04/2015	63.84	44.95
		Within the City limits where pipe laying will be done	08/04/2015 - 09/04/2015	62.28	43.58
		Residential Area Near the location of River Bed Filtraton	09/04/2015 - 10/04/2015	63.73	47.77
		Near Construction Camp	07/04/2015 - 08/04/2015	62.57	47.45
	Average			63.428	46.058
	Standard	Day time: Industrial area:75, Commercial: 65 & Residential area: 55 Night time: Industrial area:70, Commercial: 55 & Residential area: 45			

WATER QUALITY MONITORING SURFACE & GROUND WATER**1. Bageswar- Base Line Data***Date of Water Sampling :10th January, 2015 to 13th Januray, 2015**Date of Water Testing : 15th Januray, 2015 to 19th January, 2015*

Sl. No.	Parameters (unit)	Unit	Sample Location					Standard IS:10500
			SW1	SW1A	SW2	GW1	Gw2	
1	Colour	Hazen	<5.0	<5.0	<5.0	<5.0	<5.0	15
2	Odour	-	-----Un-objectionable -----					Agreeable
3	Taste	Agreeable	-----Agreeable -----					Agreeable
4	Turbidity	NTU	<1.0	<1.0	<1.0	<1.0	<1.0	5
5	pH Value	..	7.91	7.96	7.93	7.98	7.95	6.5 -8,5
6	Total Hardness (as CaCO ₃)	mg/l	129.0	178.0	125.0	144.0	152.0	600.0
7	Iron (as Fe)	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	0.3
8	Chlorides (as Cl)	mg/l	9.7	9.0	10.7	13.7	11.7	1000.0
9	Residual free chlorine	mg/l	Nil	Nil	Nil	Nil	Nil	0.2
10	Total Dissolved Solids	mg/l	131.6	136.0	144.0	138.0	139.0	2000.0
11	Fluoride (as F)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	1,0
12	Total Coliform	MPN/100ml	<2.0	<2.0	<2.0	<2.0	<2.0	Shall not detectable any 100 ml sample

Note:

SW1/SW1A: BageswarKathaitwadaWTP upstream

SW2: BageswarJalkal upstream

GW1: BageswarKaithwada- gw

GW2: Bageswar Thakur DwaraJalkal - gw

2. Dharchula- Base Line Data

Date of Water Sampling : 12th January, 2015 to 14th January, 2015

Date of Water Testing : 15th January, 2015 to 19th January, 2015

Sl. No.	Parameters	Unit	Sample Location					Standard IS:10500
			SW1	GW1	Gw2	GW3	GW4	
1	Colour	Hazen	<5.0	<5.0	<5.0	<5.0	<5.0	15
2	Odour	-	-----Un-objectionable-----					Agreeable
3	Taste	Agreeable	-----Agreeable-----					Agreeable
4	Turbidity	NTU	<1.0	<1.0	<1.0	<1.0	<1.0	5
5	pH Value	..	7.84	7.71	7.97	7.88	7.77	6.5 -8,5
6	Total Hardness (as CaCO ₃)	mg/l	140.0	140.0	133.0	235.0	87.4	600.0
7	Iron (as Fe)	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	0.3
8	Chlorides (as Cl)	mg/l	4.0	11.7	14.6	5.8	4.8	1000.0
9	Residual free chlorine	mg/l	Nil	Nil	Nil	Nil	Nil	0.2
10	Total Dissolved Solids	mg/l	137.2	125.0	129.0	189.0	78.8	2000.0
11	Fluoride (as F)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	1,0
12	Total Coliform	MPN/100ml	<2.0	<2.0	<2.0	<2.0	<2.0	Shall not detectable any 100 ml sample

Note:

SW1: DharchulaGhatKhola 50KL - hill stream

GW1: Dharchula Near Construction Camp

GW2: Dharchula Horizontal filter

GW3: DharchulaManakhet 25. KL -tap

GW4: Dharchula 300KL - tank water

3. Kapkot - Base Line Data

Date of Water Sampling : 10th January, 2015 to 12th January, 2015

Date of Water Testing : 10th January, 2015 to 19th January, 2015

Sl. No.	Parameters (unit)	Unit	Sample Location				Standard IS:10500
			SW1	SW1A	GW1	Gw2	
1	Colour	Hazen	<5.0	<5.0	<5.0	<5.0	15
2	Odour	-	-----Un-objectionable -----				Agreeable
3	Taste	Agreeable	-----Agreeable -----				Agreeable
4	Turbidity	NTU	<1.0	<1.0	<1.0	<1.0	5
5	pH Value	..	7.66	7.86	7.43	7.96	6.5 -8,5
6	Total Hardness (as CaCO ₃)	mg/l	136.0	121.0	190.0	273.0	600.0
7	Iron (as Fe)	mg/l	<0.1	<0.1	<0.1	<0.1	0.3
8	Chlorides (as Cl)	mg/l	8.8	6.8	5.8	12.7	1000.0
9	Residual free chlorine	mg/l	Nil	Nil	Nil	Nil	0.2
10	Total Dissolved Solids	mg/l	142.0	118.0	178.0	227.0	2000.0
11	Fluoride (as F)	mg/l	<0.01	<0.01	<0.01	0.02	1,0
12	Total Coliform	MPN/100 ml	<2.0	<2.0	<2.0	<2.0	Shall not detectable any 100 ml sample

Note:

SW-upstream pipe laying
 SW1/A: Kapkot- Suryu river infiltration well
 GW1: Kapkot Residential Area
 GW2: Residential Hospital Ground (Kapkot)

4. Srinagar and 5. Rudraprayag – Base Line Data**Date of Water Sampling : 20th February, 2015 to 22nd February, 2015****Date of Water Testing : 3rd March, 2015 to 10th March, 2015**

Sl. No.	Parameters (unit)	Unit	4. Sri Nagar				5. Rudraprayag		Standard IS:10500
			SW11	SW12	SW13	SW14	Sw15	SW16	
1	Colour	Hazen	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	15
2	Odour	-	-----Un-objectionable -----						Agreeable
3	Taste	Agreeable	-----Agreeable -----						Agreeable
4	Turbidity	NTU	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5
5	pH Value	..	6.95	7.41	7.52	7.93	7.82	7.71	6.5 -8,5
6	Total Hardness (as CaCO ₃)	mg/l	23.0	19.0	26.6	30.4	15.2	19.0	600.0
7	Iron (as Fe)	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3
8	Chlorides (as Cl)	mg/l	18.0	20.0	24.0	26.0	12.0	16.0	1000.0
9	Residual free chlorine	mg/l	Nil	Nil	Nil	Nil	Nil	Nil	0.2
10	Total Dissolved Solids	mg/l	44.0	50.0	54.0	57.0	29.6	37.6	2000.0
11	Fluoride (as F)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1,0
12	Total Coliform	per 100ml	----- Absent -----						Shall not detectable any 100 ml sample

Note:**4. Sri Nagar**

SW11: Sri Nagar (Pauri) -Up stream of intake well and left bank of the river.

SW12: Sri Nagar (Pauri) -Down Stream left bank of intake well

SW13: Sri Nagar (Pauri)-Upstream of RBF and left bank of the river.

SW 14: Sri Nagar (Pauri) -Down Stream left bank of RBF.

5. Rudraprayag

SW15: Rudrapryag-Up Stream of intake well and left bank of the river.

SW16: Rudrapryag-Down Stream left bank of intake will.

5. Rudraprayag and 6. Karnprayag- Base Line Data**Date of Water Sampling :** 23rd February, 2015 to 26th February, 2015**Date of Water Testing :** 3rd March, 2015 to 10th March, 2015

Sl. No.	Parameters	Unit	5. Rudraprayag (22 nd to 24 th Feb., 2015)		6. Karnprayag (23 rd to 26 th Feb., 2015)				Standard IS:10500
			SW17	SW18	SW19	SW20	SW21	SW22	
1	Colour	Hazen	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	15
2	Odour	-	-----Un-objectionable-----						Agreeable
3	Taste		-----Agreeable-----						Agreeable
4	Turbidity	NTU	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5
5	pH Value	..	7.87	7.43	7.61	7.69	7.67	7.62	6.5 -8,5
6	Total Hardness (as CaCO ₃)	mg/l	13.3	15.2	28.5	30.4	32.3	34.0	600.0
7	Iron (as Fe)	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3
8	Chlorides (as Cl)	mg/l	11.0	13.0	19.0	20.0	21.0	26.0	1000.0
9	Residual free chlorine	mg/l	Nil	Nil	Nil	Nil	Nil	Nil	0.2
10	Total Dissolved Solids	mg/l	27.0	35.6	51.6	53.0	55.2	59.0	2000.0
11	Fluoride (as F)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1,0
12	Total Coliform	per 100ml	----- Absent -----						Shall not detectable any 100 ml sample

Note:**Rudraprayag**

SW17: Rudrapryag-Up Stream of RBF and left bank of the river.

SW18: Rudrapryag-Down Stream left bank of RBF.

Karnprayag

SW19: Karnapryag-Up Stream of intake well and left bank of the river.

SW20: Karnapryag- Down Stream left bank of intake well.

SW21: Karnapryag-Up Stream of RBF and left bank of the river.

SW22: Karnapryag-Down Stream left bank of RBF.

7. Uttarkashi and 8. Gauchar – Base Line Data***Date of Water Sampling :26th February, 2015 to 28th February, 2015******Date of Water Testing : 3rd March, 2015 to 10th March, 2015***

Sl. No.	Parameters	Unit	7. Uttarkashi (26 th Feb., to 28 th Feb., 2015)				8. Gauchar (28 th Feb., to 2 nd March, 2015)				Standard IS:10500-2012
			SW23	SW24	SW25	SW26	SW27	SW28	SW29	SW30	
1	Colour	Hazen	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	15
2	Odour	-	-----Un-objectional -----								Agreeable
3	Taste	Agreeable	----- Agreeable -----								Agreeable
4	Turbidity	NTU	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5
5	pH Value	..	7.87	7.89	7.56	7.59	7.41	7.44	7.67	7.69	6.5 -8,5
6	Total Hardness (as CaCO ₃)	mg/l	26.0	22.8	15.0	13.3	38.0	32.0	30.4	34.2	600.0
7	Iron (as Fe)	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3
8	Chlorides (as Cl)	mg/l	9.0	10.0	14.0	16.0	18.0	20.0	26.0	24.0	1000.0
9	Residual free chlorine	mg/l	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.2
10	Total Dissolved Solids	mg/l	40.4	38.8	37.0	29.6	64.0	62.0	57.6	60.4	2000.0
11	Fluoride (as F)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1,0
12	Total Coliform	per 100ml	Absent	----- Absent -----							Shall not detectable any 100 ml sample

Note:**Uttarkashi**

SW23: Uttarkashi- Up Stream of intake well on Kohari Gad.

SW24: Uttarkashi- Down Stream Koharigad intake well.

SW25: Uttarkashi-Up Stream of Assi Ganga intake.

SW26: Uttarkashi- Down Steam of Assi Ganga intake.

Gauchar

SW27: Gauchar- Up Stream of intake well and left bank of the river.

SW28: Gauchar- Down Stream left bank of intake well.

SW29: Gauchar- Up Stream of RBF and left bank of the river.

SW30: Gauchar- Down Stream left bank of RBF.

9. Devprayag – Base Line Data**Date of Water Sampling : 18th February, 2015 to 20th February, 2015****Date of Water Testing : 3rd March, 2015 to 10th March, 2015**

Sl. No.	Parameters	Unit	Sample Location				Standard IS:10500-2012
			SW1	SW2	SW3	SW4	
1.	Colour	Hazen	<5.0	<5.0	<5.0	<5.0	15
2.	Odour	-	-----Un-objectionable -----				Agreeable
3.	Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4.	Turbidity	NTU	<1.0	<1.0	<1.0	<1.0	5
5.	pH Value	..	6.87	6.98	7.13	7.21	6.5 -8,5
6.	Total Hardness (as CaCO ₃)	mg/l	35.0	47.0	59.0	67.0	600.0
7.	Iron (as Fe)	mg/l	<0.1	<0.1	<0.1	<0.1	0.3
8.	Chlorides (as Cl)	mg/l	18.0	29.0	37.0	43.0	1000.0
9.	Residual free chlorine	mg/l	Nil	Nil	Nil	Nil	0.2
10.	Total Dissolved Solids	mg/l	105.0	130.0	155.0	165.0	2000.0
11.	Fluoride (as F)	mg/l	<0.01	<0.01	<0.01	<0.01	1,0
12.	Total Coliform	per 100ml	----- Absent -----				Shall not detectable any 100 ml sample

SW1 Up stream of Intake well and left bank of the river.

SW2: Downstream left bank of Intake well.

SW3: Upstream of RBF and left bank of the river.

SW4: Downstream left bank of RBF.

Environmental Monitoring During Construction**1. Dharchula (During Construction Stage in June, 2015)**

Sl. No.	Parameters	Unit	Sample Location						Standards IS:10500
			SW1	SW2	SW3	SW4	SW5	SW6	
1	Colour	Hazen	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	15
2	Odour	-	-----Un-objectionable -----						Agreeable
3	Taste	Agreeable	-----Agreeable -----						Agreeable
4	Turbidity	NTU	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5
5	pH Value	..	8.26	7.97	7.12	7.84	7.64	7.82	6.5 -8,5
6	Total Hardness (as CaCO ₃)	mg/l	40.0	48.0	116.0	96.0	84.0	72.0	600.0
7	Iron (as Fe)	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3
8	Chlorides (as Cl)	mg/l	4.0	16.0	28.0	23.0	11.0	15.0	1000.0
9	Residual free chlorine	mg/l	Nil	Nil	Nil	Nil	Nil	Nil	0.2
10	Total Dissolved Solids	mg/l	95.0	107.0	234.0	182.0	170.0	158.0	2000.0
11	Fluoride (as F)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1,0
12	Total Coliform	per 100ml	Absent	Absent	Absent	Absent	Absent	Absent	Shall not detectable any 100 ml sample

Note:

SW1: 25 KL Tank Reservoir, Manakhet - Dharchula
 SW2: 300 KL Tank Reservoir, GwalGaon - Dharchula
 SW3: Cross Well Galati Gadh Water Source (Gadhera), Galati Gadh - Dharchula
 SW4: Horizontal Ruffing Filter Galati Gadh (Gadhera), Galati Gadh - Dharchula
 SW5: 50 KL Tank Reservoir, GhatKhola - Dharchula
 SW6: Uttaranchal Koop, GhatKhola - Dharchula

2. Kapkot (During Construction Stage in June, 2015)

Sl. No.	Parameters	Unit	Sample Location					Standard IS:10500
			SW1	SW2	SW3	SW4	SW5	
1	Colour	Hazen	<5.0	<5.0	<5.0	<5.0	<5.0	15
2	Odour	-	-----Un-objectionable-----					Agreeable
3	Taste	Agreeable	-----Agreeable-----					Agreeable
4	Turbidity	NTU	<1.0	<1.0	<1.0	<1.0	<1.0	5
5	pH Value	..	7.59	7.95	7.37	7.25	7.34	6.5 -8,5
6	Total Hardness (as CaCO ₃)	mg/l	104.0	96.0	164.0	60.0	68.0	600.0
7	Iron (as Fe)	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	0.3
8	Chlorides (as Cl)	mg/l	20.0	26.0	62.0	9.0	13.0	1000.0
9	Residual free chlorine	mg/l	Nil	Nil	Nil	Nil	Nil	0.2
10	Total Dissolved Solids	mg/l	224.0	186.0	290.0	148.0	155.0	2000.0
11	Fluoride (as F)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	1,0
12	Total Coliform	per 100ml	----- Absent -----					Shall not detectable any 100 ml sample

Note:

- SW1: Maa Uma ShikshaSaraswatiMandir, Tehsil Road - Kapkot
 SW2: Labour Camp, Mandal Khet (Bhurkuti) - Kapkot
 SW3: Pipe Laying with city line, Govt. Hospital - Kapkot
 SW4: Intake Well (Up Stream) , Chheti - Kapkot
 SW5: Out take Well (Down Stream) , Chheti - Kapkot

ANNEXURE – 6

**PUBLIC CONSULTATION ON ENVIRONMENTAL ISSUES
(DURING CONSTRUCTION/ IMPLEMENTATION)**

Place of Consultation	
Date of Consultation	
Project Name	
Package No.	
Name of the Field Supervisors	
Name of the Persons	
Address	

Sl. No.	Points Discussed	Remarks
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Consultation Summary

Participants

ANNEXURE – 7

Sample Grievance Registration Form
(To be available in Hindi and English or local language, if any)

The **Uttarakhand Emergency Assistance Project (UEAP)** welcomes complaints, suggestions, queries and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback. Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing ***(CONFIDENTIAL)*** above your name.

Thank you.

Date		Place of Registration			
Contact Information/Personal Details					
Name		Gender	Male/ Female	Age	
Home Address					
Village / Town					
District					
Phone no.					
E-mail					
Complaint/Suggestion/Comment/Question Please provide the details (who, what, where and how) of your grievance below:					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)	
If – then mode:	
<input type="checkbox"/> Note/Letter	
<input type="checkbox"/> E-mail	
<input type="checkbox"/> Verbal/Telephonic	
Reviewed by: (Names/Positions of Official(s) reviewing grievance)	
Action Taken:	
Whether Action Taken Disclosed:	<input type="checkbox"/> Yes <input type="checkbox"/> No
Means of Disclosure:	

GRIVENCES RECORD AND ACTION TAKEN

Sl. No.	Date	Name and Contact No. of Complainer	Type of Complain	Place	Status of Redress	Remarks

परिशिष्ट- 7**नमूना शिकायत पंजीकरण फार्म**

(हिंदी, उर्दू और अंग्रेजी या स्थानीय भाषा में उपलब्ध हो, यदि कोई हो)

UEAP शिकायतें सुझाव प्रश्नों और परियोजना के कार्यान्वयन के बारे में टिप्पणियों का स्वागत करता है। हम लोगों को शिकायत के साथ उनके नाम और संपर्क जानकारी प्रदान करने के लिए प्रोत्साहित करते हैं ताकि हम स्पष्टीकरण और प्रतिक्रिया के लिए आपके साथ संपर्क कर सकें आपको अपने व्यक्तिगत विवरण शामिल करने चाहिए लेकिन उस जानकारी को गोपनीय रखा जायगा आपका नाम ऊपर (गोपनीय) * लेखन / टाइपिंग द्वारा हमें सूचित करें

धन्यवाद

तारीख			पंजीकरण का स्थान		
संपर्क करने संबंधी जानकारी / व्यक्तिगत विवरण					
नाम		लिंग	पुरुष महिला	आयु	
घर का पता					
गांव / शहर					
जनपद					
फोन नं.					
ईमेल					
शिकायत / सुझाव / टिप्पणी / प्रश्न नीचे अपनी शिकायत का विवरण (जो, क्या, कहां और कैसे) प्रदान करें: सलगनक / नोट / पत्र के रूप में, शामिल हैं, कृपया यहाँ टिक करें					
हम आपतक प्रतिक्रिया के लिए कैसे पहुँच सकते हैं या अपनी टिप्पणी/शिकायत पर नवीनीकरण?					

केवल कार्यालय उपयोग के लिए

द्वारा पंजीकृत:(सरकारी पंजीकरण शिकायत का नाम)						
यदि-फिर विधि:						
<input type="checkbox"/> नोट / पत्र <input type="checkbox"/> ईमेल <input type="checkbox"/> मौखिक / टेलीफोन						
से समीक्षित:(नाम / अधिकारी की पोजिशन समीक्षा शिकायत)						
की गई कार्रवाई:						
की गई कार्रवाई का खुलासा:			<input type="checkbox"/> हां <input type="checkbox"/> नहीं			
प्रकटीकरण का मतलब:						
शिकायत रिकॉर्ड और की गई कार्रवाई क्रम संख्या	तारीख	नाम और complainer का संपर्क नंबर	शिकायत के प्रकार	जगह	निवारण की स्थिति	टिप्पणियाँ

ANNEXURE – 8

GRIEVANCE REDRESSAL CELLS

परियोजना प्रबन्धन ईकाई
उत्तराखण्ड डिवायटिंग रिक्वेस्ट प्रोजेक्ट एवं
उत्तराखण्ड इमरजेंसी असिस्टेंस प्रोजेक्ट
सिडफुल बिल्डिंग 29 आई.आई.ई. (आई.टी. पार्क) लहरधारा रोड
देहरादून-248001 उत्तराखण्ड


आपदा सहित एवं पुनर्वास के अन्तर्गत आवास, सड़क, पुनर्निर्माण क्षेत्रों के लिये हेल्पिंग, विहित सविज्ञान तकनीकी भवनों, पर्यटन विकास की परिसम्पत्तियों, बहुउद्देशीय भवनों एवं एफ.आर.पी. हटस बनाये जा रहे हैं। उपरोक्त में संबंधित किसी भी समस्या के निवारण के लिये परियोजना प्रबन्धन ईकाई एवं जनपद स्तर पर समस्या निवारण प्रकोष्ठ गठित किये गये हैं, जिनके संपर्क सूत्र निम्नलिखित हैं- इन संपर्क सूत्रों पर कार्यालय दिवसों एवं कार्यालय समयावधि में संपर्क किया जा सकता है।

केन्द्रीय समस्या निवारण प्रकोष्ठ दूरभाष संख्या 0135-2708376
 परियोजना प्रबन्धन ईकाई देहरादून ई-मेल-grievancepmu@gmail.com


जनपद	नोडल अधिकारी	दूरभाष संख्या
रूढ़िप्रसाद	श्री अजीत कुमार/राहुल शर्मा	8859504022 / 8859504024
चमोली	श्री नन्द किशोर जोशी	9411352136
उत्तरकाशी	श्री देवेंद्र पटवाल	9410350338
बागेश्वर	श्री रिया शर्मा	8193917518
पिथौरागढ़	श्री आर. एवं राजा	9412079945
बलभंग	श्री गणेश जोशी	9412928707
जमावा	श्री नाराज शर्मा	9412347265
नैनीताल	श्री रमेश कुमार	9458523808
उधमसिंह नगर	श्री अमित शर्मा	7417170473
दिल्ली	—	—
हरिद्वार	—	—
देहरादून	श्री दीपिका रावत	9412341338 0135-2710334
पौड़ी	श्री हरिश्चंद्र शर्मा	9412351196

ANNEXURE – 9

LEAFLET FOR PUBLIC AWARENEES



लोक सूचना हेतु प्रपत्र
(Leaflet for Public Information)



PROJECT IMPLEMENTATION UNIT (PIU)
 (Urban Water Supply Sector)
 Uttarakhand Emergency Assistance Project (ADB)
 Uttarakhand Jal Sanathan
 Jal Bhawan, B-Block, Nehru Colony, Dehradun Uttarakhand
 Tel.: 0135-2659992, Fax: 0135-2676177
 E-mail: adb_ups@rediffmail.com

एशियाई विकास बैंक द्वारा सहायित
 "उत्तराखण्ड आपातकालीन सहायता परियोजना-न्तर्गत"
 परियोजना क्रियान्वयन इकाई (सहशेष जलापूर्ति व्यवस्था)
 के कार्यों का संबंधित कार्य विवरण

1. प्रस्तावना (Introduction)

उत्तराखण्ड एक गणराज्य राज्य है, जो ७ नवम्बर 2000 को पूर्ण रूप से पृथक राज्य के रूप में अस्तित्व में आया। विकास अधिकांश भाग मध्य हिमालय का पर्वतीय क्षेत्र है। अधिकांश भू-भाग पर्वतीय क्षेत्र में होने के कारण बड़ा ढल, वायुमय के साथ-साथ विशेष रूप से प्राचीन परिवेश में समुचित जलापूर्ति जैसी महत्वपूर्ण सुविधाओं का अभाव रहा है। परंपरागत पेयजल के लिए अधिकांश लोगों को प्राकृतिक जल स्रोतों पर ही निर्भर रहना पड़ता है। राज्य की विषम भौगोलिक परिस्थिति होने के कारण 16-17 जून 2013 को मध्य राज्य का अधिकांश पर्वतीय भू-भाग आपदा से बुरी तरह प्रभावित हुआ। जिसके परिणामस्वरूप जलमाल की दृष्टि से राज्य राज्य के अधिकांश क्षेत्रों में मौजूदा जलापूर्ति व्यवस्था एवं मोटर मार्ग पूर्ण एवं आंशिक रूप से अतिरिक्त हुए। जो राज्य सरकार के साथ समस्त मानव समुदाय के लिए एक बहुत बड़ी चुनौती साबित हुई। राज्य के पर्वतीय भू-भाग में जून 2013 की आपदा के दौरान समुचित पेयजल व्यवस्था एवं मौजूदा संरचना की अतिरिक्त स्थिति होने के कारण सरकार द्वारा एशियाई विकास बैंक के वित्तीय सहायता से उत्तराखण्ड राज्य आपदा प्रथम प्राधिकरण राज्य में जलापूर्ति व्यवस्था,

सुदृढ आवागमन एवं सर्वोत्तम गुणवत्ति हेतु विशेषतः आपदाकालीन स्थिति को मद्देनजर रखते हुए पूर्व अनुभवों के आधार पर प्रभावित क्षेत्रों के जनमानस के मध्य प्रथम महत्वाकांक्षी परियोजना के अन्तर्गत राज्य में अतिरिक्त हुए पेयजल व्यवस्था, मोटर मार्ग, भवन एवं सर्वोत्तम अतिरिक्त पूरा इत्यादि के औपचारिक हेतु परामर्श है। प्रथम कार्य हेतु परियोजना के सम्बन्धित सूचना आम जनमानस को सूचना एवं महत्वपूर्ण सुझाव के लिए इस प्रपत्र को माध्यम से प्रकाशित की जा रही है।

2. उद्देश्य (Objectives)

विकास एवं पर्यावरण एक ही सिक्के के दो पहलू हैं। यदि प्राकृतिक पर्यावरण को संतुलन एवं संवर्धन की ओर ध्यान केंद्रित किया जाए तो निश्चित ही विकास के दुष्प्रभावों को नियंत्रित किया जा सकता है। परन्तु विकास की दृष्टि में जहाँ नदी मूलभूत सुविधाओं का निर्माण कार्य अति आवश्यक है वहीं कम में राज्य के पूर्व एवं पर्वतीय क्षेत्रों में जून 2013 की आपदा के दौरान अतिरिक्त हुयी पेयजल व्यवस्था एवं मोटर मार्ग इत्यादि को पुनर्निर्माण एवं रखरखाव करना भी उत्तम ही आवश्यक है। प्रथम आपदाकालीन संरचना के सम्बन्ध में उत्तराखण्ड राज्य सरकार ने एशियाई विकास बैंक के वित्तीय सहायता से "उत्तराखण्ड

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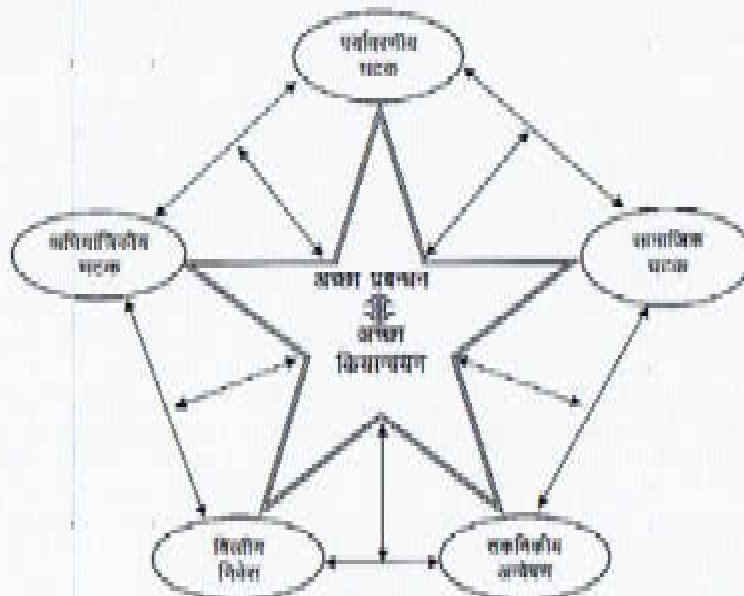


आवातकाजीन सहायता परियोजना का प्रस्तावित क्षतिग्रस्त जलापूर्ति स्थलों का जलसेख संभालन किया जा रहा है। जल परियोजना के अन्तर्गत पुनर्निर्माण एवं सुधारीकरण हेतु प्रस्तावित क्षतिग्रस्त जलापूर्ति स्थलों का जलसेख तालिका-1 में किया गया है।

तालिका-1: परियोजना क्रियान्वयन द्वाारा (राष्ट्रीय जलापूर्ति व्यवस्था) के अन्तर्गत पुनर्निर्माण एवं सुधारीकरण हेतु प्रस्तावित क्षतिग्रस्त जलापूर्ति स्थलों का संक्षिप्त विवरण।

क्र. सं.	प्रस्तावित स्थल		पैदाशुओं का विवरण		डीएम्साके का विवरण		एगएनडीओ का विवरण
	स्थल	उपनाम	नाम	इएएसओ	नाम	पर्यावरण एवं सामाजिक विवरण	
1.	कपकोट	बागेरबर	अन्वीरी जल संयंत्र/समान (श्री विकास नगरपालिका)	श्री एलए एलए मेरी (पर्यावरण विवरण)	एगएनडीओ संयंत्र/समान सोलभरती	380 एउ मि.मि (पर्यावरण विवरण) : 08030410803	श्री एलए कोट सि. अन्वीरी नगर पौर काज एण्ड इन्फ्रास्ट्रक्चर डेवलपमेंट (के.डी) देहरादून (0218017770 / 0412380319)
2.	बागेरबर	दिकैरागड					
3.	बागेरबर	दिकैरागड					
4.	वेनप्रवाग	दिकैरागड					
5.	वीनगर	वीडी	जल संयंत्र	श्री विकास नगर (पर्यावरण विवरण)			
6.	कदप्रवाग	कदप्रवाग	दुधिनियर (श्री एउ एलए शरीर : 0418020105)	001002030			
7.	गोचर	बागेरबी					
8.	जलरकारी	जलरकारी					
9.	कुल	7 जलसंध	2	2			

स्रोत: इएएसओ – पर्यावरण एवं युवा अधिकारी/विशेषज्ञ (देहरादून)



प्रवाह मानचित्र – 1: सतत विकास के अन्तर्गत परियोजना के प्रभावपूर्ण क्रियान्वयन हेतु अच्छे एक प्रबन्धन के लिए विभिन्न मन्त्रालयों का प्राथमिक प्रवाह मानचित्र।



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➤ **परियोजना के मुख्य उद्देश्य:**

उत्तम परियोजना से प्रभावित व्यक्ति चाहे प्रत्यक्ष रूप से लाभान्वित न हो, लेकिन पर्येक रूप को सक्षम मानते हुए परियोजना के क्रियान्वयन के तत्परतात आम जनमानस को जीवन में सुधार आना सुनिश्चित है। मुख्यताया आम जनमानस की आयोपिका पर अभाव और भूमि अधिग्रहण एवं पर्यावरण अलगया जैसे नकारात्मक प्रभाव समाप्तयाव काम से काम हो के लिए प्रयास करना उत्तम परियोजना का प्रमुख लक्ष्य है। एशियाई विकास बैंक के नीति निर्देशों के तहत मासिक आवासी (डीपीओ) के अन्तर्गत महिआ सारतात्मक परिहार, नुपूर्व वर्ग, नवीनी सेवा से नीचे जीवनयापन (सीपीओएलओ) करने वाले परिहार और सामाजिक रूप से विछूने वर्ग (एराउसीओ/एराएसीओ) को शामिल किया गया है। उत्तम वर्गों के परिहारों पर विशेष ध्यान केन्द्रित है। उत्तम परियोजना के अन्तर्गत 3 वर्ष की समयावधि में राज्य के 7 जनपदों में जून 2013 की आपदा को दौरान 8 शहरों/कस्बों में क्षतिग्रस्त हुए भूतपुति व्यवस्था का पुनर्निर्माण एवं सुधारीकरण करना है। उत्तम कार्यक्रम के तहत प्रस्तावित शहरों में पहले वाले शहरों के भूतपुत एवं अतिक्रमण जैसे प्रमुख मुद्दों पर सरकार एवं स्थानीय जनमानस को मध्य विचार निर्णय कर निर्माण कार्य को सुनिश्चित करना। उत्तम कार्यक्रम के अन्तर्गत समस्त पर्यावरणीय एवं भूतपुत को संवेदनशील मुद्दों को निर्माण कार्यों के क्रियान्वयन होने से अलगया तीन माह पूर्व विस्थापित किया जाना चाहिए। ताकि निर्माण कार्य के दौरान किसी भी प्रकार से कोई भी पर्यावरणीय एवं सामाजिक मुद्दा परियोजना के क्रियान्वयन में बाधा उत्पन्न न करे। परियोजना के क्रियान्वयन से पूर्व, क्रियान्वयन के दौरान एवं परियोजना क्रियान्वयन के तत्परतात डेकेदार, डीएराउसीओ/डीसीय परियोजना क्रियान्वयन इकाई/परियोजना क्रियान्वयन इकाई एवं परियोजना प्रबन्धन इकाई/एराउसीओएलओ (कार्यकारी संस्था) को निर्माताशिक्षित विन्धुओं पर विशेष ध्यान देना होगा।

1. पूर्व-निर्माण चरण में निर्माण कार्य से सम्बन्धित समस्त कार्यों हेतु सांकेतिक

सूचीकृति प्राप्त करनी होगी। जिसके उपलब्ध न होने पर यदि डेकेदार द्वारा फोर्ड भी निर्माण कार्य संचालित किया जाता है तो वह अवैध समझा जावेगा। जिसके लिए डेकेदार स्वयं उत्तरदायी होगा।

2. डेकेदार को यह भी सुनिश्चित करना होगा कि एराउसीओ की जीएनए परिशिष्टी के अनुसार समस्त कार्य के लिए पुराने एवं महिआ शक्ति को समान वेतन का भुगतान करना होगा पुराने एवं महिआओं के समान कार्य करने पर अलगया वेतन की शक्ति के स्वधीकरण होने पर एराउसीओ के मानकानुसार उत्तम प्रकारण को भी नीति-निर्देशों के तहत डेकेदार द्वारा निर्धारण का उत्तरदायन समझा जावेगा।
3. निर्माण कार्य के दौरान डेकेदार को कार्य हेतु नियुक्त किये गये अधिकारियों को निजी सुखात्मक उपकरण एवं ईंधन की व्यवस्था करनी होगी।
4. प्राथमिक पर्यावरण परीक्षण आख्या में उत्तरदायित शहरों एवं संख्यानुसार डेकेदार को डीएराउसीओ के पर्यावरण विशेषज्ञ की उपस्थिति में परिदेशी मायु, शक्ति, जल एवं धुवा का परीक्षण परियोजना के तीनों चरणों में करना प्रस्तावित है। जिसके तत्परतात परियोजना का सम्पूर्ण आकालन करना सम्भव हो सकेगा।
5. उत्तम परियोजनाअन्तर्गत परियोजना प्रबन्धन इकाई स्तर पर जून 2013 की आपदा से सम्बन्धित प्रभावित 8 जनपदों (कडप्रयाग, मगोसी, उत्तरकाशी, बार्गेस्तर, एवं पिपीहागड) हेतु आपदा राहत, भूतपुत कार्य एवं उनसे सम्बन्धित समस्था निवारण हेतु समस्था निवारण प्रकोण गठित किये गये हैं। जिसके लिए जनपदीय स्तर पर कार्यरत डीपीओएलओसओ को मोडल अधिकारी नियुक्त किये गये हैं। उपरोक्त सम्बन्ध में समस्था निवारण हेतु जोडल



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अधिकारियों से संपर्क किया जा सकता है।

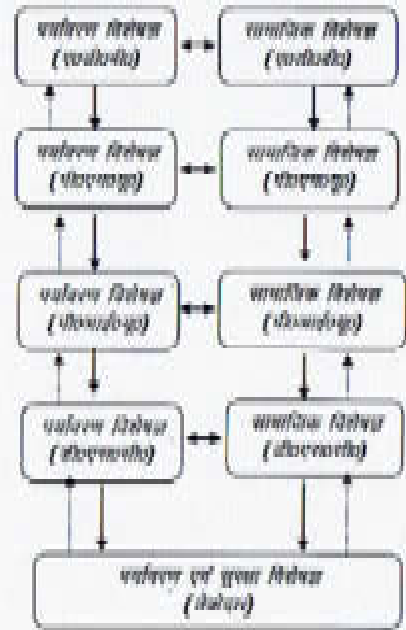
- a. एंटी-कॉपी के सुस्वात्मक विती के तहत टेकेंदार, डीएम्ससी/सेवीय परियोजना क्रियाव्ययन इकाई/परियोजना क्रियाव्ययन इकाई एवं परियोजना प्रबन्धन इकाई/एन्टी-कॉपी (कार्यवाही संस्था) को यह भी सुनिश्चित करना होगा कि परियोजना के क्रियाव्ययन के दौरान राज्य सरकार एवं भारत सरकार द्वारा पर्यावरण एवं सामाजिक दुष्प्रभावों से लागू किये गये नीति-निर्देशों का किसी भी प्रकार से उल्लंघन न हो।

टेकेंदार को परियोजनागतगत प्रस्तावित पर्यावरण प्रबन्धन एवं निगरानी योजना के अनुसार परियोजना के विभिन्न अवस्थाओं में निगरानी रखनी होगी जिसका सविधा विवरण तालिका-2 में दिया गया है।



**a. पर्यावरण परिदृश्य
(Environmental Scenario)**

उक्त परियोजना के अन्तर्गत पर्यावरण परिदृश्य का मुख्य उद्देश्य प्राकृतिक पर्यावरण एवं आवास स्थिति के साथ-साथ सतत विकास को प्रबन्धित रखते हुए बेहतर विकल्पों को पर्यावरण संरक्षण हेतु सुनिश्चित करना। जिसमें सुनिश्चित योजना, आलेखन एवं परियोजना के क्रियाव्ययन के समय विभिन्न अवस्थाओं में निम्नलिखित विन्दुओं को सम्मिलित किया गया है।

➤ पर्यावरण एवं सामाजिक सुखा की दृष्टिकोण से विवेका का पर्याय



- परियोजना के अन्तर्गत प्रमुख पर्यावरणीय प्रभावों (जल, जंगल, जमीन, वायु एवं प्राकृतिक संसाधनों का संरक्षण) की पहचान एवं उनका सूचकांक कार्य।
- प्रमुख पर्यावरणीय मुद्दों (जल, जंगल, जमीन, वायु एवं प्राकृतिक संसाधनों का संरक्षण) पर पड़ने वाले नकारात्मक प्रभावों पर नियंत्रण एवं न्यूनीकरण।
- परियोजना के अन्तर्गत पर्यावरण परीक्षण (आईआईईई), पर्यावरण प्रभाव योजना (ईएम्पीए) एवं पर्यावरण प्रभाव विश्लेषण (ईआईईई) जैसे महत्वपूर्ण ब्रह्मणों को परियोजना की आसम्भकतानुसार एकाधिक विकास बैंक एवं भारत सरकार के नीति निर्देशों के अनुसार सुनिश्चित कर समायवट तरीके से क्रियावित करना।

 <div style="display: inline-block; border: 1px solid black; padding: 5px; text-align: center;"> लोक सूचना हेतु प्रपत्र (Leaflet for Public Information) </div> 	
a. प्राकृतिक पर्यावरण के अंग (Parts of Natural Environment)	<p>✓ निर्माण कार्य, खनन क्षेत्रों एवं अवशिष्ट पदार्थों के निष्काशन हेतु हेतु विधित की गई भूमि का अनसंरक्षित प्रमाण - चयन ।</p>
<p>(अ) भौतिक पर्यावरण (Physical Environment)</p> <ul style="list-style-type: none"> ✓ जल संसाधनों का संरक्षण । ✓ भूदा संरक्षण संरक्षण । ✓ पर्यावरण प्रदूषण (जल, वायु, ध्वनि एवं भूदा) का नियंत्रण एवं प्रदूषीकरण । ✓ अवशिष्ट पदार्थों का निष्काशन । ✓ खनिज एवं धातु संसाधन । ✓ स्वाभाविक दृश्यादि । 	<p style="text-align: center;">परियोजना क्रियान्वयन प्रकाई (राष्ट्रीय जलापूर्ति व्यवस्था) उत्तराखण्ड जल संस्थान, जल भवन, बी ब्लाक, मेडरु कालोनी - देहरादून</p> <p style="text-align: center;">दस्तावे संख्या : 0135/20092012 ई-मेल : adb_ujs@rediffmail.com</p>
<p>(ब) जैविक पर्यावरण (Biological Environment)</p> <ul style="list-style-type: none"> ✓ प्रस्तावित भूमि में आन्ध्रकित वनस्पति एवं अन्य प्राणियों का संरक्षण । ✓ वन्यजीव एवं उनके प्राकृतिक आवासों (जल, जलाशय, घोंसले, शिब, गजवेदार भूमि इत्यादि) का संरक्षण । ✓ संरक्षित क्षेत्रों जैसे आरक्षित वन, वन्यजीव अभयारण्य, राष्ट्रीय उद्यान, एवं जीव-मण्डल विचल इत्यादि को संरक्षण हेतु सरकार द्वारा निर्धारित नीति निर्देशों का अनुपालन करना । 	
<p>(स) सामाजिक एवं सांस्कृतिक पर्यावरण (Socio-cultural Environment)</p> <ul style="list-style-type: none"> ✓ मंदिरों के क्षेत्रों का संरक्षण । ✓ विद्यालयों, महाविद्यालयों एवं अस्पतालों इत्यादि के सामूहिक सुरक्षा व्यवस्था । ✓ धार्मिक स्थल जैसे मठिर, मस्जिद, गुरुद्वारा इत्यादि को मद्देनजर रखना । ✓ सांस्कृतिक एवं पुरातात्विक स्थल (मरीहर) । 	

लोक सूचना हेतु प्रसार
(Leaflet for Public Information)



तालिका-2: प्रस्तावित पर्यावरण प्रबंधन एवं निगरानी योजना हेतु विभिन्न अवस्थाओं में निगरानी स्थलों की संख्या एवं विधिति

क्रम संख्या	अवस्था/संशोधनार्थ	प्रस्तावित पर्यावरण परीक्षण अवस्थाओं की तालिका 2014-15 का सारांश												विधिति
		पूर्व-निर्माण अवस्था (स्थलों की संख्या)				निर्माण अवस्था (स्थलों की संख्या/संशोधन/सूची की संख्या/संख्या)				संचालन अवस्था (स्थलों की संख्या/संशोधन/सूची की संख्या/संख्या)				
		जान	अप्रैल	जुल	सुदा	जान	अप्रैल	जुल	सुदा	जान	अप्रैल	जुल	सुदा	
अ. पूर्णतः पूर्ण														
1	मरीचक	3	4	2	4	2x2x1	4x2x1	1x2x1	2x2x1	2x2x1	2x2x1	1x2x1	1x1	
2	जलसंधारण	4	4	2	10	4x2x1	4x2x1	2x2x1	10x2x1	4x2x1	2x2x1	2x2x1	1x1	
3	साठसूत्र (संशोधन/सूची)	8	8	2	11	8x2x1	8x2x1	2x2x1	11x2x1	6x2x1	5x2x1	2x2x1	1x1	
	कुल	15	16	6	25	14	16	4	21	10	4	4	2	
ब. संचालन में न														
4	संचालन	5	5	4	12	2x2x1	2x2x1	4x2x1	12x2x1	2x2x1	2x2x1	4x2x1	1x1	
5	संचालन	8	8	4	12	8x2x1	8x2x1	4x2x1	12x2x1	2x2x1	2x2x1	4x2x1	1x1	
6	संचालन	5	5	4	12	2x2x1	2x2x1	4x2x1	12x2x1	2x2x1	2x2x1	4x2x1	1x1	
7	संचालन	8	8	4	12	8x2x1	8x2x1	4x2x1	12x2x1	2x2x1	2x2x1	4x2x1	1x1	
8	संचालन	5	5	4	12	2x2x1	2x2x1	4x2x1	12x2x1	2x2x1	2x2x1	4x2x1	1x1	
9	संचालन	8	8	4	12	8x2x1	8x2x1	4x2x1	12x2x1	2x2x1	2x2x1	4x2x1	1x1	
	कुल	39	39	24	72	30	30	16	72	10	10	24	5	
	योग (अ+ब)	54	55	30	97	44	46	20	93	20	14	28	7	

