



L&T Construction
Water & Effluent Treatment

Construction of Intermediate Pumping Station, Secondary transmission mains, overhead tanks, water distribution network and metering works including 2 years Operation & Maintenance in Nandigram-I and Nandigram-II block in East Medinipur

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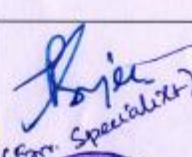
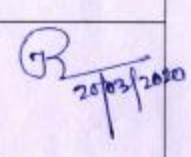


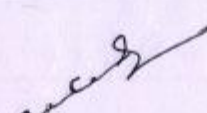

Site Specific Environmental Management Plan


SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP MEDINIPUR EM 02

NANDIGRAM BLOK - I

LOCATION – ZONE – 5: OHSR SITE, SAMSABAD.


Rev.	Date	Prepared By	Checked By	Approved by DSIC	Approved by PIU
00	13/03/2020	Mr. Sujan Goswami (EHS Officer)	Mr. Ansuman Rudra (Project Incharge)	 (Em. Specialist)	 20/03/2020
					Assistant Engineer-I P.L.U., Purba Medinipur WBDWSIP, PHE Dte. Govt. of West Bengal

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Package Area	Zone – 5, Package WB/EM/02, OHR (Samsabad) PIU- East Medinipur
Package title	West Bengal Drinking Water Sector Improvement Program – Subproject: Water Supply Distribution System for Nandigram I & II Blocks (Purba Medinipur District)
	SEMP is as per requirement of the Draft IEE covering package no. WB/EM/02
Contractor	L&T Construction
Date of Contract Award	07-11-2019
Date of works commencement for particular site	03-05-2020 (tentatively)
Contract period	Construction: 3 Years; O&M: 2 Years
SEMP Component	Construction of Overhead Reservoir – 1250 KL
	No demolition activity involved
Gram Panchayets	Samsabad
Project Description	Individual household water supply schemes for the project Gram Panchayets
Indicative Budget for EMP Implementation for the entire package	INR 62,25,000.00
Project Components	As per project detailed design
Gram Panchayet: Polerhat-I under Nandigram I block	
Land Status	Vested crematorium land and transferred
OHR Capacity	1250 KL

Location



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Details of contractors on-site-personnel and workers	
Project Incharge	Mr. Ansuman Rudra, 9831963947
Site Engineer	Mr. Subham Paul, 94633729043
Site Supervisor	Mr. Subrata Satra, 9775559907
EHS Supervisor	Mr. Sujan Goswami, 7837175749
Archaeological supervisor	-NA
Skilled / semi-skilled workers	4 no (Tentative)
Unskilled workers	11 no (Tentative)
Women workers	2 no (Tentative)
Workers – local / migrant	All the workers will be local.
Details of facilities	
Construction camps, (no's and locations)	A land has been proposed for construct labour camp near Garchakraberia GLSR site.



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Table 1: Anticipated Impacts and Mitigation Measures – Pre-construction Environmental Mitigation Plan


Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of Mitigation	Cost and Source of Fund
Utilities	<ul style="list-style-type: none"> Telephone lines, electric poles and wires, water lines within proposed project area Approach road is not present 	<ul style="list-style-type: none"> Locations and operators of these utilities to be identified as per detailed design documents to prevent unnecessary disruption of services during construction phase. Prepare spoils (Waste) and Traffic management plan. 	<ul style="list-style-type: none"> Contingency Plan has been developed by informing to emergency services like WBSEDCL, Telecommunication, local administration and police etc. The construction work to continue without disturbing the existing pipeline and electric poles. 	Contractor, PIU	DSISC observation at site and document checking	Project cost
Construction work camps, stockpile areas, storage areas, and disposal areas	Conflicts with local community; disruption to traffic flow and sensitive receptors	<ul style="list-style-type: none"> Prioritize areas within or nearest possible vacant space in the project location; If it is deemed necessary to locate elsewhere, consider sites that will not promote instability and result in destruction of property, vegetation, irrigation, and drinking water supply systems; Do not consider residential areas. Take extreme care in selecting sites to avoid direct disposal to water body which will inconvenience the community. For excess spoil disposal, ensure (a) site shall be 	<ul style="list-style-type: none"> A vacant land has been selected for camp near Garchakraberia GLSR site. The land is 100-meter distance from locality. There is no permanent surface water body within 200 meters. There is no eco sensitive zone within the vicinity. All excavated spoil will be reused at site. Excess Construction waste/ spoil will be disposed at designated site after received NOC from concern authority. All safety arrangements like proper mask, gloves, regular body temperature checkup for COVID 19 has to be made at construction site as well as labour camp site. 	Contractor, PIU	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of Mitigation	Cost and Source of Fund
		selected preferably from barren, infertile lands. In case agricultural land needs to be selected, written consent from landowners (not lessees) will be obtained; (b) debris disposal site shall be at least 200 m away from surface water bodies; (c) no residential areas shall be located within 50 m downwind side of the site; and (d) site is minimum 250 m away from sensitive locations like settlements, ponds/lakes or other water bodies.	<ul style="list-style-type: none"> Maintaining social distancing and avoid gathering wherever possible such as PEP talks, at rest shed, during lunch interval etc. 			
Sources of Materials	Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution	<ul style="list-style-type: none"> Obtain construction materials only from government approved quarries with prior approval of PIU; PIU to review, and ensure that proposed quarry sources have all necessary clearances/ permissions in place prior to approval Contractor to submit to PIU on a monthly basis documentation on material 	<ul style="list-style-type: none"> No new borrowing area or quarry is expected to be involved. Materials collected from- Cement- ACC (Tentative) Reinforcement- Tata Steel, SAIL, RINL (Tentative) Coarse Aggregates- Pachami. Fine Aggregates- River Kangsabati. Mention source are government approved. Monthly basis report regarding material will be submit to PIU 	Contractor, PIU	DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of Mitigation	Cost and Source of Fund
		obtained from each source (quarry/ borrow pit) <ul style="list-style-type: none"> Avoid creation of new borrow areas, quarries etc., for the project; if unavoidable, contractor to obtain all clearances and permissions as required under law, including Environmental Clearance prior to approval by PIU 				
Consents, permits, clearances, no objection certificates (NOCs), etc.	Failure to obtain necessary consents, permits, NOCs, etc. can result to design revisions and/or stoppage of works	<ul style="list-style-type: none"> Obtain all necessary consents, permits, clearance, NOCs, etc. prior to award of civil works. Ensure that all necessary approvals for construction to be obtained by contractor are in place before start of construction Acknowledge in writing and provide report on compliance all obtained consents permits, clearance, NOCs, etc. Include in detailed design drawings and documents all conditions and provisions if necessary 	<ul style="list-style-type: none"> Already done land requisition, electric connection, water source etc. No need for tree felling on this site. Made provision for detailed design drawing and documented all conditions Please refer Attachment O3 for list of relevant permits and clearances. 	Contractor and PIU	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of Mitigation	Cost and Source of Fund
Asbestos Cement Pipes	Health risk due to exposure to asbestos materials	<ul style="list-style-type: none"> Obtain details on location of underground Asbestos Cement pipes Locate the new piper carefully to avoid encountering AC pipes Leave the Asbestos Cement pipes undisturbed in the ground 	Presently this SEMP is for OHR site only, no use of Asbestos Cement Pipes	Contractor and PIU	PIU through DSISC observation at site and document checking	Project cost

Table 2: Anticipated Impacts and Mitigation Measures – Construction Environmental Mitigation Plan


Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Environmental Management Plan (EMP) Implementation Training and OHS plan including COVID 19 H & S plan	Irreversible impact to the environment, workers, and community	Project In-charge and all key workers will be required to undergo training on EMP implementation including spoils/waste management, Standard operating procedures (SOP) for construction works; occupational health and safety (OHS) including COVID 19 H & S awareness, core labor laws, applicable environmental laws, etc.	<ul style="list-style-type: none"> EMP implementation training session and awareness programme on COVID 19 has been planned for all workers and community Internal training with Project In-charge and all key workers have been conducted and all areas in the office premises shall be disinfected, fumigated completely using user friendly disinfectant mediums for all locations viz. Entrance, Meeting room etc. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Air Quality	Emissions from construction vehicles, equipment, and machinery used for installation of pipelines resulting to dusts and increase in concentration of vehicle-related pollutants such as carbon monoxide, sulphur oxides, particulate matter, nitrous oxides, and hydrocarbons.	<ul style="list-style-type: none"> Comply with the air pollution / dust control measures for construction activities stipulated by the "Direction of West Bengal Department of Environment under the Air Act, 1981 Direction No. EN/3170/T-IV-7/001/2009 dated: 10 December 2009" Damp down the soil and any stockpiled material on site by water sprinkling. Use tarpaulins to cover the loose material (soil, sand, aggregate etc.,) when transported by trucks; Provide a dust screen/high compound wall around the construction sites (OHRs) Clean wheels and undercarriage of haul trucks prior to leaving construction site/quarry Control dust generation while unloading the loose material (particularly aggregate, soil) at the site by sprinkling water and unloading inside the barricaded area Stabilize surface soils where loaders, support equipment and vehicles will operate by using water 	<ul style="list-style-type: none"> Only vehicles having valid PUC certificate have been engaged in the project. Mixer machine, winch machine and DG set used for concreting and pilling are not left for idling, after completion of work. Sprinkling and dust screen arrangement will be made and it will be used when required. The loose material (soil, sand, aggregate etc.) will be covered by tarpaulins as per requirement. Site is access controlled to prevent trespassing. Excavated earth piles will be maintained in such a way to minimize dust rising. Stockpiles will be maintained in such a way to minimise dust rising. Pre-construction air quality Monitoring has been conducted at following ten places- Garchakraberia, Jambari, Manuchak Jalpai, 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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		<p>and maintain surface soils in a stabilized condition</p> <ul style="list-style-type: none"> • Apply water prior to levelling or any other earth moving activity to keep the soil moist throughout the process • Control access to work area, prevent unnecessary movement of vehicle, public trespassing into work areas; limiting soil disturbance will minimize dust generation • Ensure that all the construction equipment and machineries are fitted with pollution control devises, which are operating correctly, and have a valid pollution under control (PUC) certificate 	<p>Parbatipur, Nandigram CT, Haripur, Kamalpur, Birulia, Manoharpur, Kanakpur and construction phase monitoring will be conducted in Nandigram I and II as per environmental Monitoring Plan recommended in the IEE.</p>			
Surface water quality	Mobilization of settled silt materials, and chemical contamination from fuels and lubricants during construction can contaminate nearby surface water quality.	<ul style="list-style-type: none"> • All earthworks be conducted during the dry season to prevent the problem of soil run-off during monsoon season; • Avoid stockpiling of earth fill; especially in monsoon season, cover it with tarpaulins or plastic sheets. • Prioritize and implement reuse of excess spoil and materials in the construction work; if necessary, dispose in designated disposal area. 	<ul style="list-style-type: none"> • Near drainage/ nearby water bodies are not intended for stockpiles • Storage areas are compacted and made impervious. • Locations for fuels and lubricants store is away from drainage path and spill kits have been obtained. • All excavated materials that should only be used on site. Excess spoil will disposed off in designated disposal area. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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		<ul style="list-style-type: none"> • Install temporary silt traps or sedimentation basins along the drainage leading to the water bodies • Place storage areas for fuels and lubricants away from any drainage leading to water bodies • Store fuel, construction chemicals etc., on an impervious floor, also avoid spillage by careful handling • Conduct surface quality inspection according to the Environmental Management Plan (EMP). • Create a temporary drainage channel around the work area to arrest the entry of runoff from upper areas into the work area(ix) Pump out the water collected in the pits / excavations to a temporary sedimentation pond; dispose of only clarified water into drainage channels/streams after sedimentation in the temporary ponds. • Consider safety aspects related to pit collapse due to accumulation of water 	<ul style="list-style-type: none"> • Pre-construction surface water monitoring has been conducted already following ten places Garchakraberia, Jambari, Manuchak Jalpai, Parbatipur, Nandigram CT, Haripur, Kamalpur, Birulia, Manoharpur, Kanakpur and construction phase monitoring will be conducted in Nandigram I and II as per Environmental Monitoring Plan recommended in the IEE 			
Noise Levels	Increase in noise level due to earth-moving and	<ul style="list-style-type: none"> • Plan activities in consultation with PIU so that activities with the greatest potential to generate noise are conducted during periods of the 	<ul style="list-style-type: none"> • Consultation made with local communities in advance of the work to identify and avoid working at sensitive times, 	Contractor	PIU through DSISC observation	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	excavation equipment, and the transportation of equipment, materials, and people	<p>day which will result in least disturbance;</p> <ul style="list-style-type: none"> Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with noise-reducing mufflers, and use portable street barriers to minimize sound impact to surrounding sensitive receptor; and Horns should not be used unless it is necessary to warn other road users or animals of the vehicle's approach; Consult local communities in advance of the work to identify and address key issues, and avoid working at sensitive times, such as religious and cultural festivals 	<p>such as religious and cultural festivals.</p> <ul style="list-style-type: none"> Planned activities in consultation with DSISC so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance. This is vacant land, building or structure not found which may damage by vibration. Mixer machine, winch machine and DG sets used for concreting and pilling are properly maintained and stopped immediately after completion of work. Baseline Noise quality Monitoring has been conducted at following twenty places Garchakraberia, Jambari, Manuchak Jalpai, Parbatipur, Nandigram CT, Haripur, Kamalpur, Birulia, Manoharpur, Kanakpur, Gangra, Amgechia, Gokulnagar, Naynan, Dinabandhupur, Purushottampur, Banasri 		at site and document checking	

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			Gauri, Gholpukuria, Narasinghapur Jalpai, Gopalchak and construction phase monitoring will be conducted in Nandigram I and II as per Environmental Monitoring Plan recommended in the IEE			
Landscape and aesthetics – waste generation	Construction wastes as well as excess construction materials may show some impact.	<ul style="list-style-type: none"> • Prepare a construction waste management plan for site. • As far as possible utilize the debris and excess soil in construction purpose, for example for raising the ground level or construction of access roads etc • Hazardous wastes e.g. waste oil, empty paint cans, etc. should be stored on site and then shifted to a central location from where these will be disposed in accordance with Hazardous Wastes Management Rule, 2016. • Stockpiles, lubricants, fuels, and other materials should be located away from steep slopes and water bodies; • Avoid stockpiling any excess spoils at the site for long time. Excess excavated soils should be disposed 	<ul style="list-style-type: none"> • Spoil management plan has been developed (Attachment- 07) • Waste/Construction waste is handled according to preferred hierarchy, reuse and disposal. • Waste products such as concrete and excavated soils will be used for reprocessing and filling. In addition, other solid waste such as cement bags are collected at a location on site and then transferred to our go down from where they are disposed of as required by law. • Domestic solid wastes will be segregate at the source. Bio degradable waste will be used for compost and non-bio degradable will be sold to authorized vender. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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		<p>of to approved designated areas immediately.</p> <ul style="list-style-type: none"> If disposal is required, the site shall be selected preferably from barren, infertile lands; site should be located away from residential areas, forests, water bodies and any other sensitive land uses. Domestic solid wastes should be properly segregated in biodegradable and non-biodegradable for collection and disposal to designated solid waste disposal site; create a compost pit at workers' camp sites for disposal of biodegradable waste; non-biodegradable / recyclable material shall be collected separately and sold in the local recycling material market. Residual and hazardous wastes such as oils, fuels, and lubricants shall be disposed of in disposal sites approved by local authorities/West Bengal Pollution Control Board (WBPCB); Prohibit burning of construction and/or domestic waste; Ensure that wastes are not haphazardly dumped thrown within 	<ul style="list-style-type: none"> Residual and hazardous wastes such as oils, fuels, and lubricants will be disposed of in disposal sites approved by local authorities/ West Bengal Pollution Control Board (WBPCB). After completion of the work site will be restored properly. 			

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		and around the project site and adjacent areas; provide proper collection bins and create awareness to use the dust bins. <ul style="list-style-type: none"> Conduct site clearance and restoration to original condition after the completion of construction work; PIU to ensure that site is properly restored prior to issuing of construction completion certificate 				
Existing Infrastructure and Facilities	Disruption of service and damage to existing infrastructure at specified project location	<ul style="list-style-type: none"> Prepare a list of affected utilities and operators if any. Prepare a contingency plan to include actions to be done in case of unintentional interruption of service 	<ul style="list-style-type: none"> This is a vested crematorium land; one portion have handed over to PHED and another portion will be used as a crematorium for local villager. Both portions will be demarcated by boundary wall. One power transformer is present adjacent to the OHR site. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Ecological Resources Terrestrial	Loss of vegetation and tree cover	<ul style="list-style-type: none"> Minimize removal of vegetation and disallow cutting of trees, by adopting best site layout and pipeline alignments If tree-removal will be required, obtain tree-cutting permit and Plant 5 native trees for every one that is removed. 	<ul style="list-style-type: none"> No trees are present at the OHSR site. After completion of the work planted 5 native trees for every one that is removed 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Accessibility	Traffic problems and conflicts near project locations and haul road	<ul style="list-style-type: none"> Hauling (material, waste/debris and equipment) activities Plan transportation routes so that heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites Schedule transport and hauling activities during non-peak hours; Locate entry and exit points in areas where there is low potential for traffic congestion; Drive vehicles in a considerate manner Notify affected public by public information notices, providing sign boards informing nature and duration of construction works and contact numbers for concerns/complaints. 	<ul style="list-style-type: none"> Planed an intermediate area for unloading construction material by heavy vehicles and light vehicles will transport the said materials by narrow local roads to site. All transport and hauling activity will be avoided in peak hours. During construction period Notify to public by Public Information board along with all information. 	Contractor	DSISC observation at site and document checking	Project cost
Socio-Economic - Employment	Generation of temporary employment and increase in local revenue	<ul style="list-style-type: none"> Employ local labor force as far as possible Comply with labor laws 	<ul style="list-style-type: none"> Local labours are employed, on priority, whenever available. Refer Attachment O3 for documents relating to statutory compliances 	Contractor	DSISC observation at site and document checking	Project cost
Occupational Health and Safety	Occupational hazards which can arise during work	<ul style="list-style-type: none"> Comply with all national, state and local core labor laws Develop and implement site-specific occupational health and safety 	<ul style="list-style-type: none"> Based on L&T's OHS Plan, a site specific OHS plan has been developed. 	Contractor	PIU through DSISC observation at site and	Project cost

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	<ul style="list-style-type: none"> Health Hazard from COVID 19 pandemic 	<p>(OHS) Plan which will include measures such as: (a) excluding public from the site; (b) ensuring all workers are provided with and use personal protective equipment like helmet, gumboot, safety belt, gloves, nose musk and ear plugs; (c) OHS Training for all site personnel; (d) documented procedures to be followed for all site activities; and (e) documentation of work-related accidents;</p> <ul style="list-style-type: none"> Ensure that qualified first-aid can be provided at all times. Equipped first-aid stations shall be easily accessible throughout the site; Provide medical insurance coverage for workers; Secure all installations from unauthorized intrusion and accident risks; Provide supplies of potable drinking water; Provide clean eating areas where workers are not exposed to hazardous or noxious substances; Provide health and safety orientation training to all new workers to ensure that they are apprised of the basic site rules of 	<ul style="list-style-type: none"> Site OHS plan is attached at Attachment O4. All workers have been provided with and made to use Personal Protective Equipment like helmet, gumboot, reflective jacket, gloves, nose mask and ear plugs; H&S Training for all site personnel has been arranged and it will be continued; H&S orientation training provided to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuries to fellow workers Documented procedures are followed for all site activities; Work-related accidents will be recorded; Bottled water provided at site. First Aid box provided at working sites with alcohol-based sanitizer. 		document checking	

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		<p>work at the site, personal protective protection, and preventing injuring to fellow workers;</p> <ul style="list-style-type: none"> • Provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present. Ensure also that visitor/s do not enter hazard areas unescorted; • Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas; • Ensure moving equipment is outfitted with audible back-up alarms; • Mark and provide sign boards for hazardous areas such as energized electrical devices and lines, service rooms housing high voltage equipment, and areas for storage and disposal. Signage shall be in accordance with international standards and be well known to, and easily understood by workers, visitors, and the general public as appropriate; • Development of H & S plan for managing risk from COVID19 	<ul style="list-style-type: none"> • Social distancing maintained at work site as well as camp site. • Clean eating areas provided to workers; • Moving equipment maintained with audible back-up alarms. • H & S plan for managing risk from COVID19 covered the following points: <ul style="list-style-type: none"> ○ General instructions need to be followed to prevent the spread of COVID 19 in Project Office as well as construction site ○ Precaution taken at workmen habitat/ camp ○ Preparedness prior to work resumption ○ Use of PPEs: face mask – hand gloves, maintaining social distancing, disinfection requirement of awareness covered under the H & S plan ○ Controlled access inside the project like pre-approval for deployment of new workmen from PM. 			

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Asbestos Cement (AC) Materials	Health risks associated with AC pipes	Leave AC pipes in-situ untouched	AC pipe is not using at site.	Contractor	DSISC observation at site and document checking	Project cost
Community Health and Safety.	Traffic accidents and vehicle collision with pedestrians during material and waste transportation	<ul style="list-style-type: none"> Restrict construction vehicle movements to defined access roads and demarcated working areas (unless in the event of an emergency) Enforce strict speed limit (20-30 kph) for playing on unpaved roads, construction tracks Night-time haulage will be by exception only, as approved by the PIU to minimize driving risk and disturbance to communities Temporary traffic control (e.g. flagmen) during transportation of materials and signs will be provided where necessary to improve safety and provide directions All drivers will undergo safety and training Public access to all areas where construction works are on-going will be restricted through the use of barricading and security personnel 	<ul style="list-style-type: none"> Vehicle will be restricted as per requirement. Speed limit of Vehicle will be maintained within 20-30 kph. A flagman will be appointed for controlling traffic during transportation of material to OHR location through narrow village road. All drivers have given proper training as per requirement. Barricading and Safety signage will be provided in all excavated area. Water sprinkling will be used for minimize dust pollution. Servicing of all vehicle is done properly from authorized servicing center. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		<ul style="list-style-type: none"> Control dust pollution – implement dust control measures as suggested under air quality section Maintain regularly the vehicles and use of manufacturer-approved parts to minimize potentially serious accidents caused by equipment malfunction or premature failure. 				
Work Camps and worksites	<ul style="list-style-type: none"> Temporary air and noise pollution from machine operation, water pollution from storage and use of fuels, oils, solvents, and lubricants Unsanitary and poor living conditions for workers 	<ul style="list-style-type: none"> As far as possible located the camp site within the work sites; if any camp to be established outside these, then select a camp site away from residential areas (at least 100 m buffer shall be maintained) Avoid tree cutting for setting up camp facilities Camp site shall not be located near (100 m) water bodies, flood plains flood prone/low lying areas, or any ecologically, socially, archeologically sensitive areas Separate the workers living areas and material storage areas clearly with a fencing and separate entry and exit Provide proper temporary accommodation with proper materials, adequate lighting and ventilation, appropriate facilities for winters and summers; ensure 	<ul style="list-style-type: none"> Based on IEE guideline, land has been selected for camp discussion with DSISC near Garchakraberia GLSR site but not finalised Till date no trees have been cut and no any destruction of property, irrigation and drinking water supply systems observed, Employees are trained for storage and handling of materials which can potentially cause soil and water contamination; Solid waste managed according to the following preferential hierarchy: reuse, and disposal to designated areas; Kitchen wastes collected in a dustbin then it is 	Contractor	PIU through DSISC observation at site and document checking	Project cost

Site Specific Environmental Management Plan


Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		<p>conditions of liveability at work camps are maintained at the highest standards possible at all times;</p> <ul style="list-style-type: none"> Consult PIU before locating project offices, sheds, and construction plants; Minimize removal of vegetation and disallow cutting of trees Ensure conditions of liveability at work camps are maintained at the highest standards possible at all times; living quarters and construction camps shall be provided with standard materials (as far as possible to use portable ready to fit-in reusable cabins with proper ventilation); thatched huts, and facilities constructed with materials like GI sheets, tarpaulins, etc., shall not be allowed as accommodation for workers Camp shall be provided with proper drainage, there shall not be any water accumulation Provide drinking water, water for other uses, and sanitation facilities for employees Prohibit employees from cutting of trees for firewood; contractor should be providing proper facilities 	<p>disposed outside from area to designated disposal location,</p> <ul style="list-style-type: none"> Daily generated effluent disposed by arrangements already planned in camp/ household. Work camp will be construct with a proper and standard materials. Maintained popper ventilation and hygienic environment. After construction of camp proper drainage system will be implemented at the camp. LPG will be provided for cooking purpose. Bottle water will be provided for drinking. Gender specific toilet and Proper sanitation facility will available at site. Recover used oil and lubricants will be reuse or remove from the site Completion of work, camp area will be cleaned and restored to pre-project conditions Camp should be protected from COVID 19 pandemic. All 			

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L&T Construction- Medinipur EM-02

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		including cooking fuel (oil or gas; fire wood not allowed) <ul style="list-style-type: none"> Train employees in the storage and handling of materials which can potentially cause soil contamination Recover used oil and lubricants and reuse or remove from the site Manage solid waste according to the following preference hierarchy: reuse, recycling and disposal to designated areas; provide a compost pit for biodegradable waste, and non-biodegradable / recyclable waste shall be collected and sold in local market Remove all wreckage, rubbish, or temporary structures which are no longer required At the completion of work, camp area shall be cleaned and restored to pre-project conditions, and submit report to PIU; PIU to review and approve camp clearance and closure of work site 	Health and safety procedure during staying, cooking, eating, use of toilet to follow (H & S plan for COVID 19 will be used as ref. document); <ul style="list-style-type: none"> Social distancing needs to be maintained while having tiffin or during resting time. The details of labour accommodation are presented in Attachment O2. 			
Chance Finds	There are no protected properties in the subproject sites. However, in case of chance finds,	Consult Archaeological Survey of India (ASI) or West Bengal State Archaeology Department to obtain an expert assessment of the archaeological potential of the site	<ul style="list-style-type: none"> No archaeological discoveries on project sites are confirmed till date If there is any such finding, action will be taken up as per requirement. 	Contractor	PIU through DSISC observation at site and	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	contractors will be required to follow a protocol as defined in the mitigation measures.	<ul style="list-style-type: none"> Include state and local archaeological, cultural and historical authorities, and interest groups in consultation forums as project stakeholders so that their expertise can be made available. In case of chance finds, works must be stopped immediately until such time chance finds are cleared by experts 			document checking	
Submission of EMP implementation report	Unsatisfactory compliance to EMP	<ul style="list-style-type: none"> Appointment of Environment, Health and Safety (EHS) Supervisor to ensure EMP implementation Timely submission of monitoring reports including pictures 	Environment, Health and Safety (EHS) Supervisor already mobilised to site and will be taken care all EMP related compliance.	Contractor	PIU through DSISC observation at site and document checking	Project cost
Post-construction clean-up	Damage due to debris, spoils, excess construction materials	<ul style="list-style-type: none"> Remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; and All disrupted utilities restored The area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. 	<ul style="list-style-type: none"> All spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) will be cleared from site. Before leaving from camp, site will be restored to original condition after checking of spills of substances such as oil, paint, etc. and these shall be cleaned up 	Contractor	PIU through DSISC observation at site and document checking	Project cost


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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		<ul style="list-style-type: none"> All hardened surfaces within the construction camp area shall be ripped, all imported materials removed, and the area shall be top soiled and re-grassed using the guidelines set out in the revegetation specification that forms part of this document. The contractor must arrange the cancellation of all temporary services. Request PIU to report in writing that worksites and camps have been vacated and restored to pre-project conditions before acceptance of work.. 				

Table 3: Operation Stage Environmental Impacts and Mitigation Measures

Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of Mitigation	Cost and Source of Fund
Check for blockage and leakage problems reducing the water losses	Loss of water, increased demand and inconvenience to consumers and general public	<ul style="list-style-type: none"> Effectiveness of leak detection and water auditing to reduce the water losses 	<ul style="list-style-type: none"> By proper monitoring system leakage will PMbe detected. 	Public Health Engineering Department (PHED)	PMU	Operating costs
Occupational health and safety	<ul style="list-style-type: none"> Health, social and economic impacts on the workers 	<ul style="list-style-type: none"> Provide appropriate PPE and training on its proper use and maintenance. 	<ul style="list-style-type: none"> To all Employ/ staff will be given proper training regarding use of PPE and. 	Public Health Engineering Department	PMU	Operating costs

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of Mitigation	Cost and Source of Fund
	<ul style="list-style-type: none"> Health Hazard from COVID 19 pandemic 	<ul style="list-style-type: none"> Use fall protection equipment when working at heights. Maintain work areas to minimize slipping and tripping hazards. Implement a training program for operators who work with chlorine regarding safe handling practices and emergency response procedures. Prepare escape plans from areas where there might be a chlorine emission. Install safety showers and eye wash stations near the chlorine equipment and other areas where hazardous chemicals are stored or used. Prohibit eating, smoking, and drinking except in designated areas 	<ul style="list-style-type: none"> Safety belt will be used for fall protection during working at height. Work area will be maintained to minimize slipping and tripping hazards Employ/ Staff will be given proper training regarding Chemical use and handling. Proper layout will be provided at site for escaping from site during chlorine emission Use of proper PPE for protection against COVID19 while working. Use of sanitizer at working sites. Social distancing needs to be maintained. 	(PHED)		
Increased in sewage generation	Water pollution, and impacts on public health and environment	<ul style="list-style-type: none"> Sanitation and sewerage/septage facilities needs to be improved/provided in the project area to suit the increased sewage generation 	<ul style="list-style-type: none"> Sanitation and sewerage/septage facilities will be provided in the project area to suit the increased sewage generation 	Public Health Engineering Department (PHED)		To be identified



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Table 4: Construction Phase Environmental Monitoring Plan for Entire Package

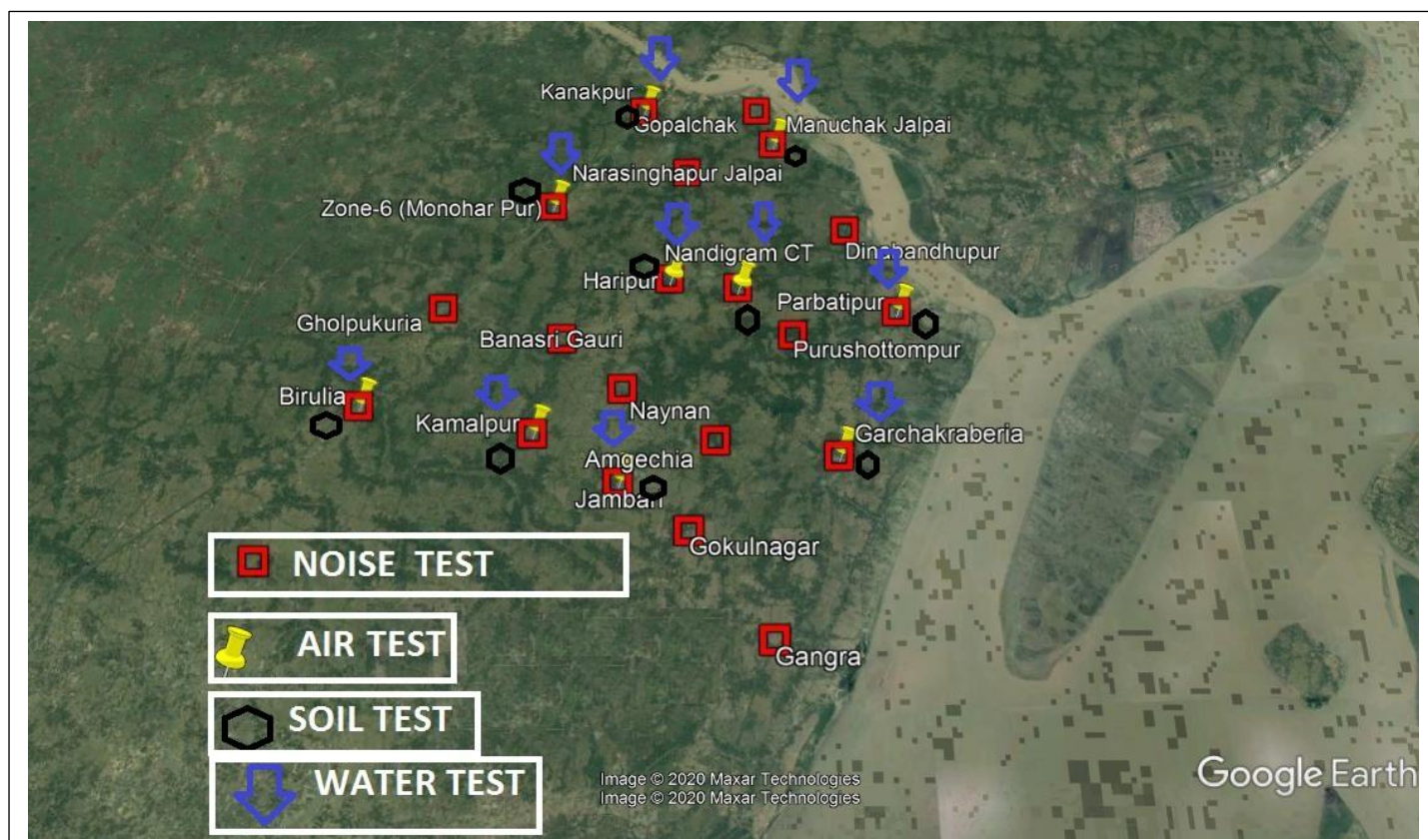
Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Locations	Cost as per budget (in Rs.)
Construction disturbances, nuisances, public and worker safety,	All work sites	Implementation of dust control, noise control, traffic management, and safety measures. Inspection checklist to review implementation is appended at Appendix O.4	Weekly during construction		Cost for implementation and monitoring is responsibility of contractor
Ambient air quality	10 locations (to be selected during implementation to represent the overall project area)	<ul style="list-style-type: none"> PM10, PM2.5 NO₂, SO₂, CO 	Once before start of construction Yearly 3-times during construction (3-year period considered)	Garchakraberia, Jambari, Manuchak Jalpai, Parbatipur, Nandigram CT, Haripur, Kamalpur, Birulia, Manoharpur, Kanakpur	Cost for implementation of monitoring measures responsibility of contractor (100 samples x Rs.5000 per sample = Rs.500,000 approx)
Ambient noise	20 locations (same as air quality monitoring)	<ul style="list-style-type: none"> Day time and night time noise levels (24 hours) 	Once before start of construction Yearly 3 -times during construction (3-year period considered)	Garchakraberia, Gangra, Amgechia, Gokulnagar, Jambari, Naynan, Dinabandhupur, Manuchak Jalpai, Parbatipur, Purushottampur, Nandigram CT, Haripur, Banasri Garui, Kamalpur, Birulia, Gholpukuria, Manoharpur, Kanakpur, narasinghapur Jalpai, Gopalchak	Cost for implementation of monitoring measures responsibility of contractor (200 samples x Rs,1500 per sample = Rs.300,000 approx)
Surface water quality	10 locations (to be selected during implementation)	<ul style="list-style-type: none"> pH, Oil and grease, Cl, F, NO₃, TC, FC, Hardness, Turbidity BOD, COD, DO, Total Alkalinity 	Once before start of construction Yearly 3-times during construction (3-year period considered)	Garchakraberia, Jambari, Manuchak Jalpai, Parbatipur, Nandigram CT, Haripur, Kamalpur, Birulia, Manoharpur, Kanakpur	Cost for implementation of monitoring measures responsibility of contractor (100 samples x Rs.5000 per sample =

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Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Locations	Cost as per budget (in Rs.)
					Rs.500,000approx)
Soil quality	10 locations (including , construction camps, workers camps)	Elect. Conductivity (at 250C), Moisture (at 1050C), Texture (silt, clay, sand), Calcium (as CaO), Magnesium (as Mg), Permeability, Nitrogen (as N), Sodium (as Na), Phosphate (as PO4), Potassium (as K), Organic Matter, oil and grease	Once before start of construction Yearly 3-times during construction (3-year period considered)	Garchakraberia, Jambari, Manuchak Jalpai, Parbatipur, Nandigram CT, Haripur, Kamalpur, Birulia, Manoharpur, Kanakpur	Cost for implementation of monitoring measures responsibility of contractor (100 samples x Rs.5000 per samples = Rs.500,000.00 approx)
Ground Water Quality	10 locations (including workers camp site & Construction camp/storage yards)	• As per IS10,500: 2012	Once before start of construction Yearly 3-times during construction (3-year period considered)	Garchakraberia, Jambari, Manuchak Jalpai, Parbatipur, Nandigram CT, Haripur, Kamalpur, Birulia, Manoharpur, Kanakpur	Cost for implementation of monitoring measures responsibility of contractor (100 samples x Rs.6000 per samples = Rs.600,000.00 approx)

Site Specific Environmental Management Plan

Monitoring Locations on Google Earth




List of Attachments




- Attachment O1: Details of construction Work sites
- Attachment O2: Details of construction camp sites
- Attachment O3: List of clearances & statutory requirements
- Attachment O4: Contractor's OHS Policy & Organization
- Attachment O5: Utility shifting / relocation
- Attachment O6: Details of Construction Materials
- Attachment O7: Spoil Management Plan
- Attachment O8: Procedure for on-site Grievance Redressal Mechanism
- Attachment O9: Procedure for information disclosure prior to start of works

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Attachment O1: Details of construction Work sites

1. Zone 5: OHR construction Site	
Location- Samsabad	
A	Material storage <ul style="list-style-type: none"> • Cement • Steel • Fine Aggregate • Coarse Aggregate • Shuttering Material • Shuttering Oil
B	Plant & Machinery <ul style="list-style-type: none"> • Concrete Mixer – 1 No • Needle Vibrator – 1 No • Steel Cutter – 1No
C	Site office – No
D	Laboratory – No
E	Security cabin – No
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Labor rest area • Toilets • Drinking water • First Aid Box.
G	Site Layout Plan Refer Appendix O.1
H	Site photographs
Original site photographs	
OHR site before Construction	

Site Specific Environmental Management Plan

Project facilities at Site		
	Project Information Board	
		
	PPEs use at site	First Aid Box at site

- **Safety signage at site**
Safety signage will be displayed at site before start of construction activities.
- **Toilet on OHR site**
Separate toilet for men and women will be constructed on site.
- **Labour Rest Area**
Labour rest area will be constructed before start of construction activities.

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Attachment O2: Details of construction camp sites

1.	Labour accommodation, Garchakraberia
Location: (Latitude :21.97035714, Longitude :88.00255399)	
A	Accommodation – For 15 Nos construction workers No women / families in the camp facilities to be provided at camp site <ul style="list-style-type: none"> • Type of living accommodation – not yet finalised. One land has been proposed at Garchakraberia for construction of labour camp. • Separate cooking area • Cooking gas • Drinking water • Bath rooms • Toilets • Drainage system • First aid box
B	Camp photographs
Original site Photographs	Dropping and picking facilities will be available for labor as the construction site is 3.5km(approx.) away from proposed labour camp

Photos of camp and facilities provided		
	Proposed land for camp	

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Attachment O3: List of clearances & statutory requirements

Sl. No.	Project related	Status
A	Construction/work related	
1	Possession of land	Available
2	Notice to Proceed from PIU	Available
B	Labour Safety / Welfare Related	
1	Labour license	Obtained [Refer Appendix – O.A]
2	Workmen Compensation Policy	Obtained [Refer Appendix – O.B]
C	Safety / liability safety related	
1	Medical Insurance	Tie-up with local hospital
D	Others	
1	Fitness certificate for vehicles, equipment used in construction	
2	Pollution under control (PUC) certificates for vehicles and equipment	Available [Refer Appendix – O.C]
3	Driving licenses for drivers	Obtained
4	Insurance for vehicles / equipment, as required	Obtained


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Attachment O4: Contractor's OHS Policy & Organization

1	Contractor agency has a OHS policy	Yes
A	If yes, provide policy details 1. Policy statement: 2. EHS organization & responsibilities:	Yes [Refer Appendix O2] Yes
B	List safety risks anticipated in the project Work area - OHR • Trips and falls • Head injury from falling objects • Confined work space • Slope failure / trench collapse • Accidents from open excavations • Separate health risk from COVID 19 situation	-
C	<ul style="list-style-type: none"> List of personal protection equipment provided to workers Boots- 15 Pair (apprx). Gloves-15Pair (approx). Helmet-15 Nos (approx). Nose mask – 30 nos. Safety jacket- 15 Nos (approx). Goggles- 15 Nos (approx.). Face mask – 100 nos. 	Yes
D	Preventive Measures	
	• Orientation of all workers on OSH and specifically COVID 19 risks and mitigation	Done
	• Work permit system	Yes
	• Toolbox/safety meetings / health risk regarding COVID 19 risk (how often will this be conducted, what are the minimum topics)	Daily
	• Safety signage	Will be displayed before start of construction. including COVID 19 IEC document, posters
	• Barricades (more than 1 m deep requires hard barricading)	Yes

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2	Contractor emergency procedure													
A	<ul style="list-style-type: none"> In case of accident, first aid treatment to injured labour/person shall be provided. In case hospitalization is required, concerned site in-charge will immediately take necessary action for hospitalization and he will inform to our Project In-charge. Details of accident shall be reported in accident register and the same shall be informed to client also. Emergency plan for tackling COVID 19 situations (ref. H & S plan for COVID 19 pandemic). Identification of Emergency Response Team (ERT) 													
B	Contact information, staff and responsibilities for emergency situations (Separate responsibility matrix is prepared for COVID emergency situation, included in supplementary H & S plan)													
	<table> <tr> <th>Designation</th><th>Staff name & contact</th><th>Emergency responsibility</th></tr> <tr> <td>Site Engineer</td><td>Mr. Shubham Paul Mob. 9433729043</td><td>Site Engineer shall be responsible for arranging of first aid treatment and other necessary action required in case of emergency. He will also be responsible for informing to EHS Supervisor.</td></tr> <tr> <td>EHS Supervisor</td><td>Mr. Sujan Goswami Mob : 7837175749</td><td>EHS Supervisor should assess the emergency situation and accordingly instruct the Site Engineer of appropriate actions. Depending on the gravity of the situation, he should also inform Project In-charge Representative.</td></tr> <tr> <td>Project Incharge</td><td>Mr Ansuman Rudra Mob. 9831963947</td><td>Project shall be responsible for taking all necessary action and decisions.</td></tr> </table>	Designation	Staff name & contact	Emergency responsibility	Site Engineer	Mr. Shubham Paul Mob. 9433729043	Site Engineer shall be responsible for arranging of first aid treatment and other necessary action required in case of emergency. He will also be responsible for informing to EHS Supervisor.	EHS Supervisor	Mr. Sujan Goswami Mob : 7837175749	EHS Supervisor should assess the emergency situation and accordingly instruct the Site Engineer of appropriate actions. Depending on the gravity of the situation, he should also inform Project In-charge Representative.	Project Incharge	Mr Ansuman Rudra Mob. 9831963947	Project shall be responsible for taking all necessary action and decisions.	
Designation	Staff name & contact	Emergency responsibility												
Site Engineer	Mr. Shubham Paul Mob. 9433729043	Site Engineer shall be responsible for arranging of first aid treatment and other necessary action required in case of emergency. He will also be responsible for informing to EHS Supervisor.												
EHS Supervisor	Mr. Sujan Goswami Mob : 7837175749	EHS Supervisor should assess the emergency situation and accordingly instruct the Site Engineer of appropriate actions. Depending on the gravity of the situation, he should also inform Project In-charge Representative.												
Project Incharge	Mr Ansuman Rudra Mob. 9831963947	Project shall be responsible for taking all necessary action and decisions.												
C	Reporting procedure in case of work accidents <ul style="list-style-type: none"> Details of accidents shall be recorded in accident register. Copy of accident register shall be submitted to client at the end of every month. In case of any major accident client shall be informed immediately. 	Yes												
D	Mandatory Reporting to Authorities	Yes												
E	Prohibited Acts and Penalties for Violations	Yes												

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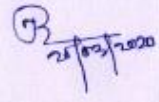


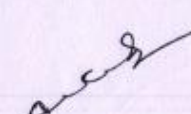

Attachment O5: Utility shifting/relocation


Sl. No.	List work sites that require utility shifting, relocation, temporary shut off	Remarks
1	Area work sites (OHSR)	Not Required

Attachment O6: Details of Construction Materials

Sl. No	Material	Approximate quantity (MT) required for project	Source	Indicate if source has all necessary government clearances
1	Steel	82.5	Approved supplier	-
2	Cement	300.1	Approved supplier	-
3	Sand	450.0 (Cum)	From approved quarries at Gopiballavpur/ Bardhaman	Yes
4	Aggregate	675.1(Cum)	From approved quarries at Nalhati/ Rampurhat	Yes

Attachment O7: Spoil Management Plan

<p align="center">SPOIL MANAGEMENT PLAN (SMP) WBDWSIP MEDINIPUR EM 02 NANDIGRAM BLOK - I LOCATION – ZONE – 5: OHSR SITE, SAMSABAD.</p>					
Rev.	Date	Prepared By	Checked By	Approved by DSIC	Approved by PIU
00	13/03/2020	Mr. Sujan Goswami (EHS Officer)	Mr. Ansuman Rudra (Project Engineer)	 (Env. Spt)	
					Assistant Engineer-I P.I.U., Purba Medinipur WBDWSIP, PHE Dte. Govt. of West Bengal

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1. INTRODUCTION OF SMP:

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse of spoil from works.

2. SCOPE:

This Spoil Management Plan developed for OHSR site in **Zone 5 of Nandigram I**. We do not anticipate any excess Spoil for disposal as all excavated material will be reuse at site only.

3. LEGAL AND OTHER REQUIREMENTS:

In this project, there is no legal litigation at site for land and working area or site. Disposal of spoil will confirming the Environmental Protection Rules and Regulations of Govt. of India and the State Govt.

4. ROLES AND RESPONSIBILITY:

SITE ENGINEER:

- Will strictly work as per drawing.
- Will stay at site during activity is going on.
- Will see excess earth is kept at a particular place after completion of backfilling.
- Will ensure quality of the work by discussing daily about the type of activity on that day with the workmen.
- Will check site drain outlets are not blocked due to excavated earth on the drain.

SAFETY PERSONNEL:

- Will constant Job specific Tool Box Talk with Supervisor and Workmen.
- Will check excavated earth kept away from top.
- Will check if any underground pipeline is there or live electric cable the water should be sprayed to avoid dust hazard from excavation.
- Necessary Safety signage, Cones & FRP Barricading Board to be used.
- Vehicles reverse horn etc. to be checked will ensure zero tolerance in safety.

WORKER:

- They will start activity only after Tool Box Talk done.
- They will wear job specific safety items before start of work.
- During working inside the excavated trench, they should use ladder for easy access.
- They should barricade the area of activity with Safety barricading tape.
- Worker should be skilled to carry out the work.

Site Specific Environmental Management Plan

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff and worker under their supervision carry it out in this project. Major roles and responsibilities are mentioned below:

- Excavated earth should be utilized like refilling at site only.
- Traffic movement should not be obstructed by dumping soil during the work.
- No low land, pond, ditch etc. will be filled up by extra soil outside the work place.
- Ensuring no accident occurs during rainy season by excavated earth during or finished the work.
- All the drains, outlet should be free from excavated earth.

5. IDENTIFICATION AND ASSESSMENT OF SPOIL ASPECTS AND IMPACTS:

In this project, places will be identified jointly along with design engineer for utilisation. Main places where the excavated earth can be utilized are the trench of pipes and backfilling location.

6. SPOIL VOLUMES AND CHARACTERISTICS:

In this zone, Generation of excavated earth will be approx. 751.5 cum. There is no excess earth in this project as the same earth is to be used to fill the low land area.

7. SPOIL REUSES OPPORTUNITIES, IDENTIFICATION AND ASSESMENT:

In this project, there is no excess quality of excavated earth; total excavated earth should be reuse as per plan.

8. ON SITE SPOIL MANAGMENT APPROACH:

In this project, no need of the approach as there is no extra soils for disposal.

9. SPOIL TRANSPORTATION METHODOLOGY:

In this project, no need for spoil transport as there is no extra soils for disposal.

10. MONITORING, REPORTING, REVIEW AND IMPROVEMENTS:

Monitoring, Reporting and all necessary improvements will be done as per requirements.

SPOIL DETAILS

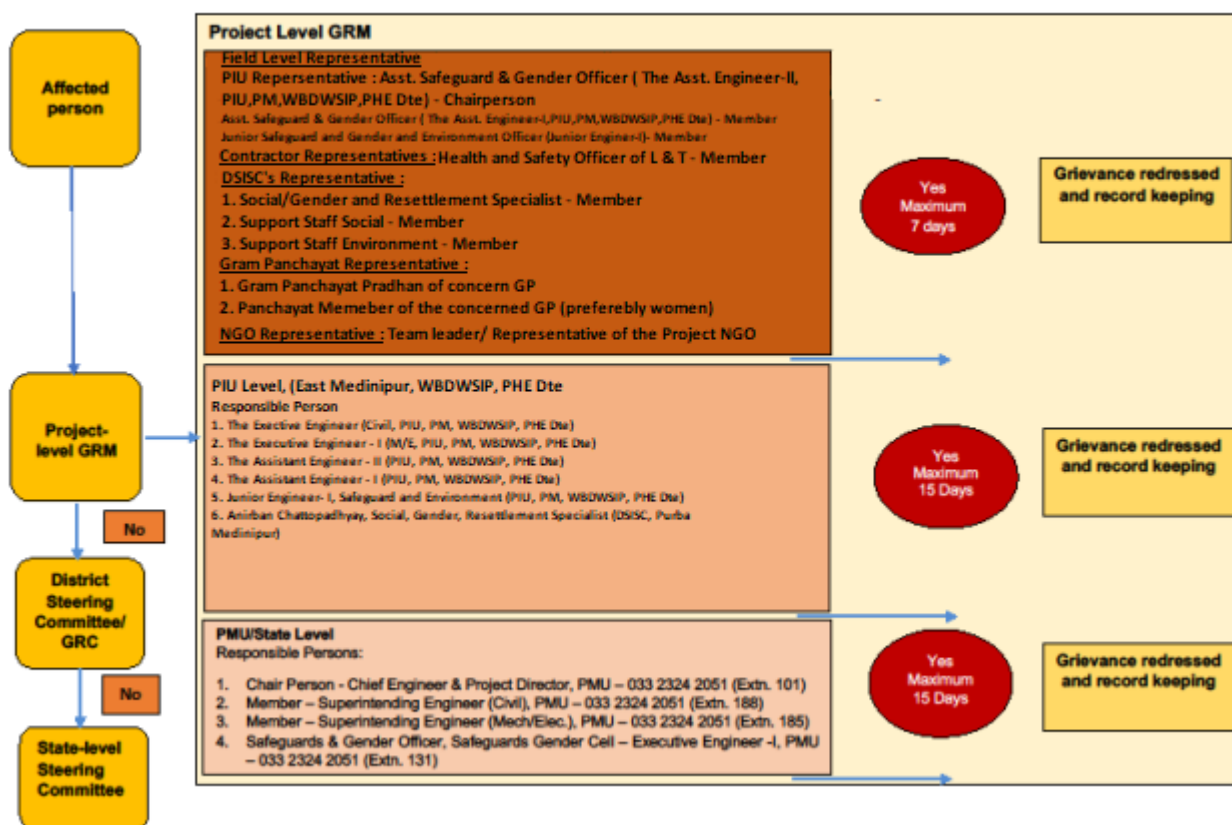
Sl. No.	Zone	Name of Structure	Excavation Total Quantity (C.U.M)	Back Filling Total Quantity (C.U.M)	Reuse Excess Quantity (C.U.M)
1.	05	OHSR	751.5	512	239.5

Site Specific Environmental Management Plan

Attachment O8: Procedure for on-site Grievance Redressal Mechanism

A common Grievance Redressal Mechanism (GRM) is in place to redress social, environmental or any other project and/or subproject related grievances. The GRM presented below has been developed in consultation with stakeholders. Public awareness campaign has been conducted to ensure that awareness on the project and its grievance redress procedures is generated. The campaign has ensured that the poor, vulnerable and others are made aware of grievance redress procedures and entitlements per project entitlement matrix, and PMU and PIU will ensure that their grievances are addressed in time.

Grievance Redress Mechanism



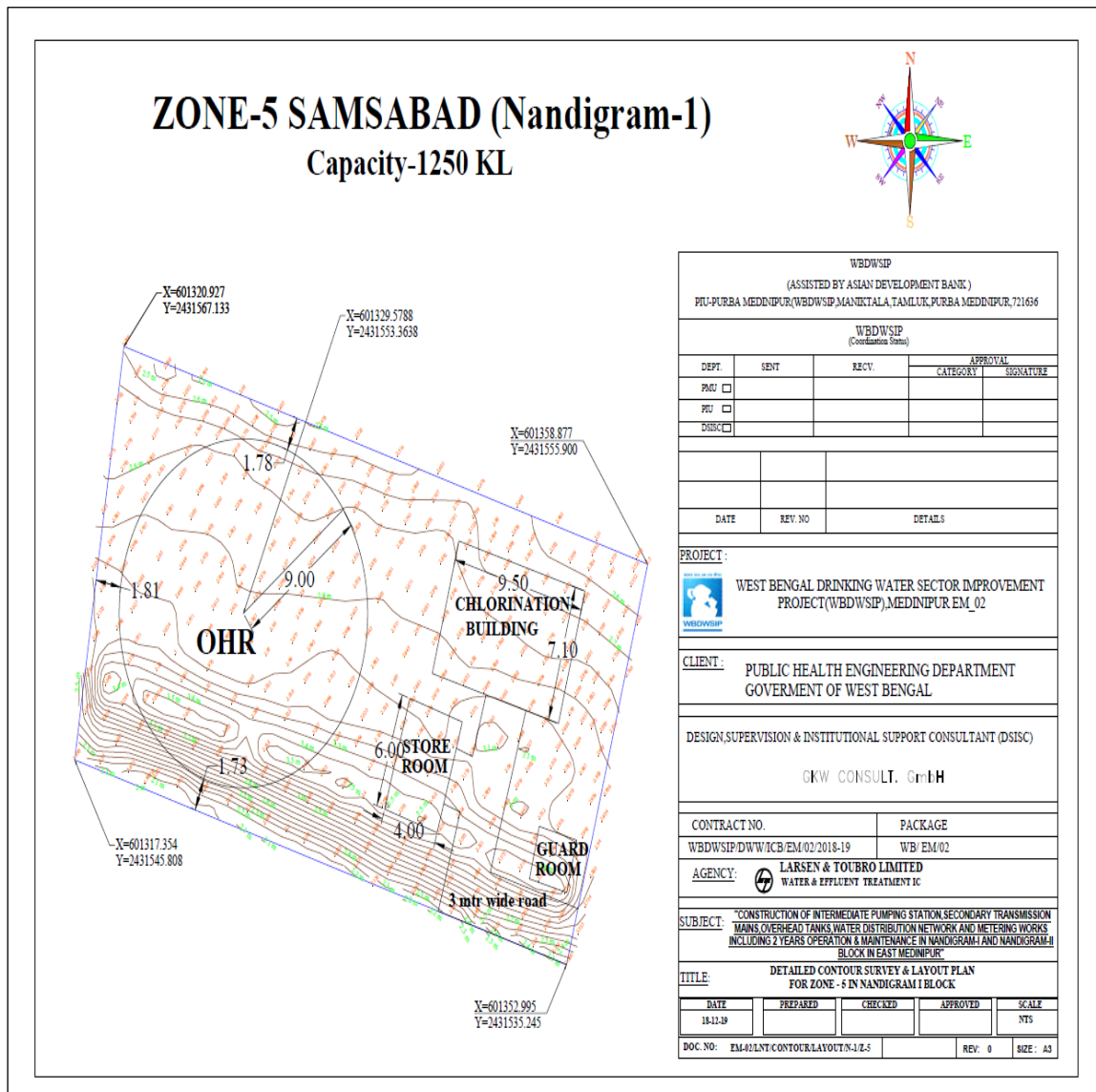
All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in **Appendix O3**.

Attachment O9: Procedure for information disclosure prior to start of works

- Local population is informed through community leaders as well as by visiting individual households of the locality.
- Information board is placed at construction site
- Stakeholder consultation carried out at Gram Panchayat level and work details including time period is informed.

Site Specific Environmental Management Plan

Appendix O.1: Site Layout Plan



Site Specific Environmental Management Plan

Appendix O.A: Labour License



GOVERNMENT OF WEST BENGAL

OFFICE OF THE DEPUTY LABOUR COMMISSIONER, HALDIA
BASUDEVPUR, P.O.-KHANJANCHAK, P.S.-DURGACHAK, DIST.-PURBA MEDINIPUR, PIN-721602

FORM VI

[See Rule 25(1)]

Licence No. : **HAL04/CLL/000769**

Date : **05th Feb, 2020**

Lic Fees	1250
S.Deposit	45000

LICENCE

Licence is hereby granted to **LARSEN & TOUBRO LIMITED** at **Medinipur Drinking Water Supply Project , Nandigram, Block- Nandigram-I , Haldia, PS - Nandigram , District - Purba Medinipur, Pin Code - 721631** under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the conditions specified in Annexure.

The Licence shall remain in force till: **03rd Feb, 2021.**

TANMOY MONDAL Digitally signed by
TANMOY MONDAL
Date: 2020.02.05
12:14:54 +05'30'

Signature & Seal

of

Licensing Officer

Haldia, Purba Medinipur

Establishment Information:

O/O THE SUPERINTENDING ENGINEER, PROJECT IMPLEMENTATION UNIT , PURBA MEDINIPUR , WBDWSIP , PHE
DTE [TAM06/CLR/000016]

W.Site - BAR PADUMBASAN, MANIKTALA, TAMLUK,

Ward-4, Tamluk Municipality , Tamluk - 721636, PS - Tamluk, Purba Medinipur

Work site exact location:

Medinipur Drinking Water Supply Project

Nandigram, Block- Nandigram-I , Haldia


PS - Nandigram , District - Purba Medinipur, Pin Code - 721631

Site Specific Environmental Management Plan

ANNEXURE

The licence is subject to the following conditions:

- (1). The licence shall be non-transferable.
- (2). The number of workmen employed as contract labour in the establishment shall not on any day, exceed **450 (Four Hundred And Fifty)**.
- (3). Except as provided in the rules the fees paid for the grant, or as the case may be, for renewal of the licence shall be non-refundable.
- (4). The rates of wages payable to the workmen by the contractor shall not be less than the rates prescribed for the Schedule of employment under the Minimum Wages Act, 1948, where applicable, and where the rates have been fixed by agreement, settlement or award, not less than the rates fixed.
- (5). In cases where the workmen employed by the contractor perform the same or similar kind of work: as the workmen directly employed by the principal employer of the establishment, the wage rates, holidays, hours of work and other conditions of service of the workmen of the contractor shall be the same as applicable to the workmen directly employed by the principal employer of the establishment on the same or similar kind of work provided that in the case of any disagreement with regard to the type of work the same shall be decided by the Labour Commissioner, West Bengal, whose decision shall be final.
- (6). In other cases the wage rates, holidays, hours of work and conditions of service of the workmen of the contractor shall be such as may be specified in this behalf by the Labour Commissioner, West Bengal.
- (7). In every establishment where 50 or more, women having children are ordinarily employed as contract labour there shall be provided 2 rooms of reasonable dimensions for the use of their children under the age of six years. One of such rooms would be used as a play room for the children and the other as bed room for the children. For this purpose the contractor shall supply adequate number of toys and games in the play room and sufficient number of cots and beddings in the sleeping room. The standard of construction and maintenance of the creches may be such as may be specified in this behalf by the Labour Commissioner, West Bengal.
- (8). The Licensee shall notify any change in the number of workmen or the conditions of work to the Licensing Officer.

 L&T Construction Water & Effluent Treatment	Construction of Intermediate Pumping Station, Secondary transmission mains, overhead tanks, water distribution network and metering works including 2 years Operation & Maintenance in Nandigram-I and Nandigram-II block in East Medinipur	Doc: No. L&T/ SEMP /01 Last Revision No.: 00 Last Revision Date : 00 Page 42 of 53 Issue Date :00/00/2020
Site Specific Environmental Management Plan		

Appendix O.B: Workman Compensation Policy



Certificate No: 499

Date: 31-Mar-2020

To whomsoever it may concern

This is to certify that we have issued Group Personal Accident Policy No. 4005/102843874/05/000 to M/S. Larsen & Toubro Limited valid for the period 31-03-2020 to 30-03-2021.

This Policy covers all Permanent Workers, Temporary Workers, Sub-contractor's Workers, Piece-rate workers, Trainee Workers working at Project/Office of L&T Ltd and their Subsidiary & Associate Companies, Factories & Consortiums, SPVs, JVs, L&T Infrastructure Development Projects Ltd, L&T Hydrocarbon Engineering Ltd located anywhere in India.

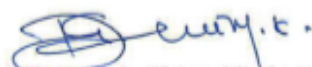
This Policy covers the above workers in the following project site.

LE190889 - Construction of Intermediate Pumping Station, Secondary transmission mains, overhead tanks, water distribution network and metering works including 2 years Operation & Maintenance in Nandigram-I and Nandigram-II block in East Medinipur

Principal: Public Health Engineering Directorate, Project Management Unit, West Bengal Drinking Water Sector Improvement Project.

No of Workers: 450

For ICICI Lombard General Insurance Co Ltd



Rathnakar Nair K | Associate Vice President – Specialized Industries

ICICI Lombard General Insurance Company Limited AA

Mailing Address:

401 & 402, 4th Floor, Interphase II,
New Linking Road, Malad (West),
Mumbai - 400 084.

Registered Office:

ICICI Lombard House, 414, Veer Savarkar Marg,
Near Siddhi Vinayak Temple, Prohbadoli,
Mumbai - 400 025.

Toll free No. : 1800 2655

Alternate No. : 0 92236 22966 (chargeable)

Email : customersupport@icicilombard.com

Website : www.icicilombard.com



L&T Construction
Water & Effluent Treatment

Construction of Intermediate Pumping Station, Secondary transmission mains, overhead tanks, water distribution network and metering works including 2 years Operation & Maintenance in Nandigram-I and Nandigram-II block in East Medinipur

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Site Specific Environmental Management Plan

Appendix O.C: PUC Certificates

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1988)

Vehicle Registrn. No. **WB-33D-3378** WB-01-**D 6673563**

Date of issue: **21-OCT-2019** Valid upto **20-APR-2020**

Pollution Level

CO (%)	
HC (ppm)	16.7
SD (HSU)	

PUC Certificate issued by: **Ghosh Auto Emission Testing Centre**
Signature: *[Signature]* License No. and Seal: **NH-30, Hosnabad Paschim, Medinipur**

TEST REPORT
WB-01-**D 6673563**
GHOSH AUTO EMISSION TESTING CENTRE
Authorised by Govt. of W.B.
N.H.- 60, HOSNABAD, PASCHIM MEDINIPUR, W.B.

Vehicle Registration No.	: WB-33D-3378	Licence No.	: MID-2/PUC
Year of Registration.	: 2017	Fuel.	: DIESEL
Speedometer Reading. (Kms.)	: 11456	Date.	: 21-10-2019
Engine Number.	: WJH6A13341	Time.	: 10-45-10
Chassis Number.	: WJXH5A43043	Owner.	: SAMIRAN DUTTA
Vehicle Color.	: D.WHITE	Test Fee.	: Rs. 100/-
Type of Vehicle.	: 4-W	Test Station Code.	: 000
Type of Engine	: 4-S	Vehicle Model.	: BOLERO,BS-IV
Vehicle Make.	: M & M.LTD	Driver.	: SELF
Test Result.	: Free Acceleration.	I.D. Number.	: WBDP00001

No. of K	Kval	MinRpm	MaxRpm	Interval	OilTemp	Test_Time
1	0.42	691	1765	1.0	66.0	10-45-10
2	0.50	677	1745	1.0	64.0	10-46-11
3	0.43	682	1749	1.0	63.0	10-47-13
4	0.32	686	1735	1.0	65.0	10-48-56
5	0.48	000	0000	1.0	00.0	10-49-14
6	0.00	000	0000	1.0	00.0	10-50-52
7	0.00	000	0000	1.0	00.0	10-51-21
8	-	-	-	-	-	-
9	-	-	-	-	-	-
10	-	-	-	-	-	-
K_Avg.	0.4275	Thank You, Come Again.				
HSU	16.7					

Certified that this vehicle's K-Mean and HSU% value conforms to the standards prescribed under Rule 115(2) of CMV Rules 1989, the certificate is valid for 6 months.

Valid Up To: **20-APR-2020**

Validity: **6 Months.**

Grade: **A**

Seal of Testing Centre.
Ghosh Auto Emission Testing Centre
NH-30, Hosnabad, Paschim Medinipur
Name of Authorised Signatory with Signature.



L&T Construction
Water & Effluent Treatment

Construction of Intermediate Pumping Station, Secondary transmission mains, overhead tanks, water distribution network and metering works including 2 years Operation & Maintenance in Nandigram-I and Nandigram-II block in East Medinipur

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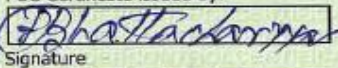
POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registrn. No. : **WB29B 9380** WB-01-A **9667525**

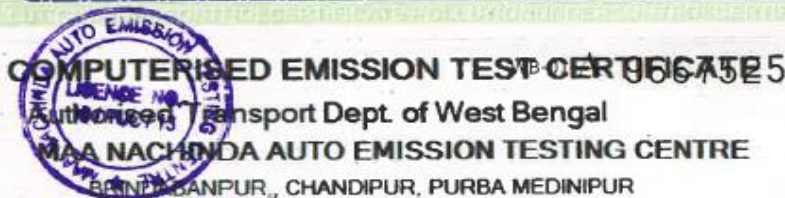
Date of issue: **19-02-2020** Valid upto: **18-02-2021**

Pollution Level:

CO (%)	
HC (ppm)	5.5866
SD (HSU)	

PUC Certificate issued by:  License No. and Seal: **16/PUC/13**

Signature



Liscence Number :- 16/PUC/13

I.D. Number :- 000032 Date :- 19-02-2020
Year Of Registration :- 2020 Time :- 12:37:23 PM
Vehicle Registration Number :- WB29B 9380
Speedometer :- 0
Engine Number :- 63369
Chassis Number :- 23860
Vehicle Color :- WHITE Contact :- 7430891228
Vehicle Make :- MAHINDRA Oil Temperature :- 41
Vehicle Model :- BOLERO PLUS Fuel :- Diesel
Type Of Engine :- 4S Test Fee :- 100
Type of Vehicle :- 4W Result :- Pass
Owner :- ABITRA MAITY
Driver :- SELF Valid Upto :- 18-02-2021

	Ideal RPM	Max RPM	K_Value	HSU_Value	Oil Temp
1	779	2249	1.43	5.97	46
2	748	2162	0.9	5.56	44
3	709	2145	0.8	5.23	41
Avg	745.33	2185.33	1.04334	5.5866	


Name of Authorise Signatory
with Seal of Testing Center





L&T Construction
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Construction of Intermediate Pumping Station, Secondary transmission mains, overhead tanks, water distribution network and metering works including 2 years Operation & Maintenance in Nandigram-I and Nandigram-II block in East Medinipur

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Site Specific Environmental Management Plan

Appendix O.2: Contractor's OHS Policy Statement

Corporate Environment, Health & Safety (EHS) Policy

We remain committed to safeguarding the health and safety of our employees and other stakeholders and preserving the environment.

To fulfil the above commitment, we will ensure the following:

- Incorporate applicable EHS requirements across all processes, right from tendering, planning, design, recruitment and procurement, production, execution, operation and maintenance to align with their respective business objectives
- Meet or exceed all applicable legal and other compliance obligations, irrespective of the stipulations of the enforcement authorities in the country of operation
- Pay serious attention to workmen welfare, especially to their habitat, to improve morale, retention and thereby productivity
- Impart structured training and augment resources for effective EHS performance
- Prevent adverse environmental impact and occupational health and safety risks
- Conserve natural resources, minimize waste generation and environmental emissions
- Encourage communication, consultation and collaboration with all stakeholders
- Establish SMART EHS objectives to permanently reduce EHS risks by eliminating hazards or substituting with less harmful equipment, material, methods and review implementation to achieve continual improvement.

This policy to be communicated to all our stakeholders and reviewed every year to ensure that it remains relevant to our business and effective to improve performance.

Date: 1st July, 2019

S N SUBRAHMANYAN
Chief Executive Officer
& Managing Director



LARSEN & TOUBRO
It's all about Imagineering



Site Specific Environmental Management Plan

ENVIRONMENT HEALTH & SAFETY POLICY

The **Water and Effluent Treatment IC** of L&T Construction is committed to conserve the Environment and to provide a Healthy, Safe and Cordial Workplace to Employees and Stakeholders.

EHS Philosophy

- Minimize the Environmental Aspect & Impacts
- All incidents are preventable
- "Zero Harm" across the work places and offices
- Preserve natural resources for future generations and
- No task is so important that risk of injury to people or damage to the environment is justified

The objectives of this EHS Policy shall be achieved by

- Integrating the EHS Plan and Procedures into every operations of the Independent Company.
- Achieving an incident free work places and offices through proactive capturing and correcting of maximum number of UA/UC/UB, Near Miss and First-Aid cases and subsequent reduction of Severity Rate, Frequency & Fatality Rates
- Compliance to applicable Legal and Other Requirements.
- Elimination & Reduction of OH&S Hazards and Risks.
- Encouraging the preparation of HIRA & EAISR across the sites and offices to have better proactive EHS hazard control measures and minimize the environmental aspect and impact
- Inculcating a positive EHS culture among employees through continuous training and awareness programs
- Encouraging Communication, Consultation and Coordination among Employees, Stakeholders and External Agencies
- Achieving continual improvement by integrating EHS procedures into every process and through periodic internal/external auditing of IMS Management System
- Continuous monitoring of EHS Implementation across the IC through various software modules
- Assessing and employing the Sub-Contractors complying with L&T/WET-IC IMS Standard.
- Engages, Motivates and Develops Employees to promote Sustainability Initiatives that result in Innovative ideas, Operational efficiencies, Cost savings and a reduced Environmental footprint.
- Preserving water through Reduce, Reuse and Recycle principles.

The Top management is committed to provide Manpower, Infrastructure and Financial assistance for achieving the above EHS objectives. Employees are accountable and responsible for implementing and maintaining the EHS Management System across the WET-IC. Business Units, Tendering & Contracts, EDRC, P&M, HR, HR (W), IR & Admin, Supply Chain & Sub-Contractor Management and other Functional departments and Sites shall support and implement the above Management directives to achieve "Zero Harm" across the WET-IC as per employment conditions.



S. Rajavel

SR. VP & Head

Water & Effluent Treatment IC & SWC BU

Date: 18th September, 2018



L&T Construction
Water & Effluent Treatment IC



SMOKE FREE POLICY

Purpose

Water and Effluent Treatment IC (WET IC) has a duty to provide a safe and healthy work environment for its employees, service users, customers and visitors. Exposure to second-hand smoke, also known as passive smoking, increases the risk of lung cancer, heart disease and other illnesses. Ventilation or separating smokers and non-smokers within the same airspace does not completely stop potentially dangerous exposure.

Policy

It is the policy of WET IC that all our workplaces are to be smoke-free and all employees have a right to work in a smoke-free environment.

Smoking or use of tobacco products (including but not limited to pipes, cigars and snuff or chewing tobacco) is prohibited throughout the entire workplace with no exceptions. This includes company vehicles. Employees may smoke outside the office or at designated smoking areas.

This policy applies to all employees, consultants, Sub-Contractors, customers or members and visitors.

Implementation

- Senior and Middle Management are responsible for the implementation of the policy.
- Staff members are obliged to adhere to and facilitate the implementation of the policy.
- Appropriate 'No smoking' signs will be clearly displayed at the entrances to and within the premises.

Non-compliance

Local disciplinary procedures shall be followed if a member of staff consultants, Sub-Contractors, customers or members and visitors does not comply with this policy.


S. Rajavel

SR. VP & Head

Water & Effluent Treatment IC & SWC BU

Date: 18th September, 2018



L&T Construction
Water & Effluent Treatment IC



Site Specific Environmental Management Plan

DRUG AND ALCOHOL POLICY

Purpose

Water and Effluent Treatment-IC (WET IC) has responsibility and commitment toward its employees, visitors, stakeholders and interested parties to ensure a safe and healthy workplace and a work environment free of alcohol and drug use / abuse.

Policy

This policy applies at the workplace of WET IC, to its employee, workmen, visitors, Sub-Contractors and other related parties during the working Hours.

- All employees are expected to report fit for duty for scheduled work and should be able to perform assigned duties safely and acceptably without any limitations due to the use or after-effects of alcohol, illicit drugs, non-prescription drugs or prescribed medications or any other substance.
- Alcohol or drugs can have adverse effects upon the workplace, the integrity of our work culture and the safety of employees. It will diminish the objective of an alcohol and drug free work environment. As such, the Company wants to impress upon all employees that it has zero tolerance for employees who arrive at work under the influence of alcohol or drugs, and/or whose ability to work is impaired in any way by reason of consumption of alcohol or drugs on the Company property.
- The Company strictly prohibits the use, unlawful manufacture, sale, purchase, offer to purchase or sell, transfer, distribution, consumption or possession of drugs or alcohol on company property. To this end, the Company reserves the right to conduct searches for drugs or alcohol, including but not limited to lockers, filing cabinets, desks, packages, etc. which are on Company property or in a Company facility. Any drugs or alcohol found as a result of such a search will be confiscated and the occupant or user of the object searched will be subject to disciplinary action, up to and including termination of employment.
- No workmen, Sub-Contractors, visitors and other related parties shall be allowed to enter the workplace under the influence of alcohol and drugs.

Roles & Responsibilities

It is the responsibility of an employee's superior to identify a situation in which they have concerns about the individual's immediate ability to perform their job and take appropriate steps. Where necessary, they will remove any employee, workmen, Sub-Contractor, visitor and other related parties who are suspected of violating the provisions of this policy from Company premises, pending investigation and a decision on appropriate disciplinary action.


S. Rajavel

SR. VP & Head

Water & Effluent Treatment IC & SWC BU

Date: 18th September, 2018



L&T Construction
Water & Effluent Treatment IC



Site Specific Environmental Management Plan

MOBILE PHONE USAGE POLICY

Purpose

The Water & Effluent Treatment IC has the moral responsibility to provide a safe and healthy work environment for its employees, service users, customers and visitors. In the age of digitalization, mobile phone has become an integral part of our day-to-day life and is a great asset, if used correctly. Using mobile devices can distract users and co-workers from the hazards associated with their tasks and working environment. Regulating the use of mobile phone at workplace will not only reduce the incident but also increase the safety, quality and productivity.

Scope

This policy applies to all employees, consultants, sub-contractors, customers and visitors. The mobile devices & accessories include cell phones, tablets, MP3 players, iPods, earphones, Bluetooth devices etc.

General Requirements

The use of mobile phone is discouraged while driving the vehicle, operating P&M equipment, executing any critical activities and working at inflammable environments as per risk potential identified in HIRA and EASIR for day/night shifts.

Employees are permitted to use their mobile phones to make emergency calls, business calls, to check important messages and to make brief personal calls away from workspace hazards at demarcated safe to use zones. Employees can use their phones during breaks or at lunch hour. Employees shall exercise due diligence before using their mobile phones while clicking photographs and using company's productivity/ safety/quality apps while discharging their duties at workplace.

Implementation

- Senior and Middle Management are responsible for the implementation of the policy.
- Staff members are obliged to adhere to and facilitate the implementation of the policy.
- Designated 'Safe to Use' zones shall be established across sites and offices.

The Top Management is committed to provide manpower, infrastructure and financial assistance for achieving the EHS objective. Employees are accountable and responsible for implementing and maintaining the Mobile Phone Usage Policy across WET IC sites. All functional departments and sites shall support, implement and adhere to this policy to achieve "Zero Harm" across the WET IC as per employment conditions.

S. Rajavel
Senior Vice President & Head
Water, Smart World & Communication.

09th January 2020



L&T Construction
Water & Effluent Treatment IC

Appendix O.3: Sample Grievance Registration Form (Available in Bengali and English)

The _____ Project 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	Project Town			
		Project:			
Contact information/personal details					
Name		Gender	* Male * Female	Age	
Home address					
Place					
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)	
Mode of communication: Note/letter E-mail Verbal/telephonic	
Reviewed by: (Names/positions of officials reviewing grievance)	
Action taken:	
Whether action taken disclosed:	Yes No
Means of disclosure:	



L&T Construction
Water & Effluent Treatment

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অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি লিপিবদ্ধ করার নমুনা পত্র

এই _____ প্রকল্পটি সূষ্ঠ ও সুন্দরভাবে রূপায়নের উদ্দেশ্যে সকলের অভিযোগ, পরামর্শ, প্রশ্ন এবং মন্তব্য প্রত্যাশা করে। আপনার কোনও অভিযোগ থাকলে আপনার নাম ও যোগাযোগের ঠিকানা দিয়ে আমাদের সহযোগিতা করবেন, আপনার অভিযোগ / প্রশ্নের যথার্থ সদুত্তর ও আপনাকে পরিস্থিতি সম্পর্কে আমরা অবগত করবো।

যদি আপনি আপনার ব্যক্তি পরিচয় গোপন রাখতে চান তাহলে আপনার নামের উপরে " গোপনীয় " কথাটি লিখবেন।

ধন্যবাদান্তে

তারিখ	পঞ্জীকরণের বা Registration এর স্থানঃ		
	ব্লক- গ্রাম পঞ্চায়েত- গ্রাম সংসদ-		
যোগাযোগের ঠিকানা / ব্যক্তিগত তথ্য			
নাম		লিঙ্গ	বয়স
বাড়ির ঠিকানাঃ গ্রাম- ফোন নং-	পাড়া- ই-মেইল-	পুরুষ - মহিলা-	
অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি- দয়া করে কে, কি, কোথায় এবং কিভাবে - অভিযোগের এই বিশদ বিবরণ নিচে লিখুন-			
যদি কোন অতিরিক্ত কাগজ জুড়তে হয় / বা নোট থাকে বা চিঠি থাকে তাহলে এই ঘরে (৭) টীক দিন।			
আপনি কিভাবে আপনার অভিযোগ / মন্তব্য বিষয়ে অবগত হতে চান ?			

গুণমাত্রা অফিসের ব্যবহারের জন্যঃ

যে আধিকারিক অভিযোগ জমা নিলেন তার নামঃ
কিভাবে জানানো হল (৭) টীক দিনঃ নোট বা চিঠির মাধ্যমে - ই-মেইল- মুখে মুখে বা টেলিফোনে-
যিনি অভিযোগ পাবার পর খতিয়ে দেখেছেনঃ
(নাম / পদ)
কি ব্যবস্থা গ্রহণ করা হয়েছেঃ
ব্যবস্থা বা গৃহীত হয়েছে তা জানানো হয়েছে কি না - হ্যা / না
কিভাবে জানানো হলঃ
মন্তব্য-

প্রস্তুতকারক -

আনুমোদনকারী -

তারিখ-

Site Specific Environmental Management Plan

Appendix O.4: Sample Environmental Site Inspection Report

Project Activity Stage	Survey	
	Design	
	Implementation	
	Pre-Commissioning	
	Guarantee Period	
Monitoring Items	Compliance	
Compliance marked as Yes / No / Not applicable(NA) / Partially Implemented (PI)		
EHS supervisor appointed by contractor and available on site		
Construction site management plan (spoils, safety, schedule, equipment etc..) prepared		
Traffic management plan prepared		
Dust is under control		
Excavated soil properly placed within minimum space		
Construction area is confined; no traffic/pedestrian entry observed		
Surplus soil/debris/waste is disposed without delay		
Construction material (sand/gravel/aggregate) brought to site as & when required only		
Tarpaulins used to cover sand & other loose material when transported by vehicles		
After unloading , wheels & undercarriage of vehicles cleaned prior to leaving the site		
No chance finds encountered during excavation		
Work is planned in consultation with traffic police		
Work is not being conducted during heavy traffic		
Work at a stretch is completed within a day (excavation, pipe laying & backfilling)		
Pipe trenches are not kept open unduly		
Road is not completely closed; work is conducted on edge; at least one line is kept open		
Road is closed; alternative route provided & public informed, information board provided		
Pedestrian access to houses is not blocked due to pipe laying		
Spaces left in between trenches for access		
Wooden planks/metal sheets provided across trench for pedestrian		
No public/unauthorized entry observed in work site		
Children safety measures(barricades, security)in place at works in residential areas		
Prior public information provided about the work, schedule and disturbances		
Caution/warning board provided on site		
Guards with red flag provided during work at busy roads		
Workers using appropriate PPE (boots, gloves, helmets, ear muffs etc)		
Workers conducting or near heavy noise work is provided with ear muffs		
Contractor is following standard & safe construction practices		
Deep excavation is conducted with land slip/protection measures		

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Site Specific Environmental Management Plan

First aid facilities are available on site and workers informed	
Drinking water provided at the site	
Monitoring Items	Compliance
Toilet facility provided at the site	
Separate toilet facility is provided for women workers	
Workers camps are maintained cleanly	
Adequate toilet & bath facilities provided	
Contractor employed local workers as far as possible	
Workers camp set up with the permission of PIU	
Adequate housing provided	
Sufficient water provided for drinking/washing/bath	
No noisy work is conducted in the nights	
Local people informed of noisy work	
No blasting activity conducted	
Pneumatic drills or other equipment creating vibration is not used near old/risky buildings	