

Attachment Env-01: Environmental Management Plan

Environment Management Plan is shown in following table. Underlined items are not included in the DPR 2017, but added in the draft EIA report submitted to TNSPCB in April.

Table Environment Management Plan - Construction

SI No	Item	Mitigation Measures	Implementation	Supervision	Cost in Indian Rupees
1.	Air pollution	<p>(Dust)</p> <ul style="list-style-type: none"> All earth work will be protected in manner acceptable to the engineer to minimize generation of dust. Area under construction will be covered & equipped with dust collector. During subgrade construction sprinkling of water should be carried out at least twice a day on a regular basis during the entire construction period especially in the winter and summer seasons (Emission) All precautions to reduce the level of the dust emissions from the hot mix plant will be taken. The hot mix plants should be sited at least 500 m from the nearest habitation and from major water bodies. They should be fitted with dust extraction units All vehicles, equipment and machinery used for construction should be fitted with latest air pollution control equipment and should be regularly maintained to ensure that the emission levels are as per norms of PCB. Idling of delivery trucks or other equipment should not be permitted during periods of unloading or when they are not in active use. 	Contractor	HMPD through TNRDC	Included in construction cost
2.	Water pollution	<ul style="list-style-type: none"> No labor camps, stone crushers, hot mix plants and other heavy machinery should be located near to water bodies. No discharge from such establishments should follow their path into nearby water bodies. 	Contractor	HMPD through TNRDC	55,63,000/- (Oil Interceptors, Recharge pits,

SI No	Item	Mitigation Measures	Implementation	Supervision	Cost in Indian Rupees
					Deepening of ponds)
3.	Waste	<ul style="list-style-type: none"> • Selection of the disposal sites will be carried out in consultation with the State pollution control board. • <u>Every newly constructed bus stops will be furnished with dustbins.</u> • <u>There will be provided within the precincts of every workplace latrines and urinals in an accessible place and accommodation. Unless otherwise arranged for by the local sanitary authority arrangement for proper disposal of excreta by incineration at the workplace will be made by means of a suitable incinerator approved by the local medical health or municipal authorities.</u> 	Contractor	HMPD through TNRDC, SPCB	Included in construction cost
4.	Soil Contamination	<ul style="list-style-type: none"> • Silt fencing to be provided. • Oils and chemicals will be stored indoor. • Generators and machineries will be equipped with oil guard that will prevent Oil leak. • <u>Oil interceptor will be provided for accidental spill of oil and diesel.</u> • <u>Fuel storage and fueling areas will be located at least 300 m from all cross-drainage structures and significant water bodies.</u> 	Contractor	HMPD through TNRDC	Included in construction cost
5.	Noise and vibration	<ul style="list-style-type: none"> • Noisy construction operations in residential and sensitive areas should be done only between 7:30 AM and 6 PM. • Sound barriers will be installed during the construction phase to protect the inhabited areas from the noise from construction activities. • Idling of temporary trucks or other equipment should not be permitted during periods of loading/unloading or when they 	Contractor	HMPD through TNRDC	Noise barrier walls: Provisions made in Civil works contract Other measures:

SI No	Item	Mitigation Measures	Implementation	Supervision	Cost in Indian Rupees
		<p>are not in active use.</p> <ul style="list-style-type: none"> Stationery construction equipment will be kept at least 500 m away from sensitive receptors. Noise barrier walls of 500m will be constructed at nine locations (total 4500m) where residences are nearby 			Included in construction cost
6.	Eco-System	<ul style="list-style-type: none"> Plants samplings 10 times of the number of felling trees. Felling 181 trees. Unit cost Indian rupees 1,500. 	Contractor/DFO	HMPD through TNRDC	27,15,000/-
		<ul style="list-style-type: none"> Transplanting affected tree girth size below 90 cm to nearby places. Transplanting 406 trees unit price INR Rs. 6000. 	Contractor/DFO	HMPD through TNRDC	24,36,000
		<ul style="list-style-type: none"> (Section 5) Secure the double size of the RF area to be converted by the section 5 and provide afforestation fee. 	HMPD through TNRDC/ DRO / RDO	HMPD through TNRDC	Included in land acquisition cost
		<ul style="list-style-type: none"> Design an efficient drainage plan based on the field observation of water shed and topography to avoid and minimize impacts by Run off soil on surrounding habitats in operation phase Design and construct stable slopes, efficient drainage facilities and plant cover on the berm to avoid/minimize impacts by Run off soil on surrounding habits in operation phase 	Construction Supervision Consultant/ Contractor	HMPD through TNRDC	Included in construction cost
		<ul style="list-style-type: none"> During construction phase cover the berm with protective mat/sheet especially in rainy season and construct temporal drainage ditches to avoid/minimize impact by runoff soil on surrounding habitats 	Construction Supervision Consultant/ Contractor	HMPD through TNRDC	Included in construction cost
7.	Hydrological Situation	<ul style="list-style-type: none"> HMPD/contractor will discuss agree with PWD, and implement the agreed plan, to secure the water storage capacity of the affected water bodies by such as compensatory digging where water area is to be filled 	HMPD through TNRDC /Contractor	HMPD through TNRDC	Included in construction cost

SI No	Item	Mitigation Measures	Implementation	Supervision	Cost in Indian Rupees
8.	Involuntary resettlement loss of land and asset, business relocation	<ul style="list-style-type: none"> • Compensation for loss, assistance for relocation and livelihood assistance will be implemented with good discussion and consulting with PAHs and transparent procedure 	Project implementation team (PIT) in TNRDC / NGO (consultant)	HMPD through TNRDC	Included in the RAP implementation cost
9.	The poor	<ul style="list-style-type: none"> • Compensation for loss assistance for relocation and livelihood assistance will be implemented with a good discussion and consulting with PAH's and transparent procedures 	Project implementation team (PIT) in TNRDC / NGO (consultant)	HMPD through TNRDC	Included in the RAP implementation cost
10.	Local economy, employment and living, livelihood	<ul style="list-style-type: none"> • (Section 1) no negative impact • (Section 2, 3, 5) minimize negative impact on local economy caused from stoppage of roadside business operations, by means such as encouraging earlier setback in house lot, concentrating on construction works on one side of the road 	Project implementation team (PIT) in TNRDC / NGO (consultant)	HMPD through TNRDC	Included in construction cost and RAP implementation cost
11.	Water use, water right	<ul style="list-style-type: none"> • The wastage of water during the construction should be minimized. In case of tapping water from community sources, consent to be obtained from local administration for the same. • Arrangement for supply and storage of water will be made by the contractor in such a way that the water availability and supply to the nearby communities remain unaffected. If a new tube well is to be bored, proper sanction and approval by ground water department is needed. 	Contractor	HMPD through TNRDC, Ground Water Department	Included in construction cost
12.	Existing public facilities, road and transportation facilities, social infrastructure, social	<ul style="list-style-type: none"> • Identify the common utilities that would be affected such as telephone cables, electric cables, electric poles, water pipelines, public water taps, etc. 	Contractor	HMPD through TNRDC, Electricity company, water	Included in construction cost

SI No	Item	Mitigation Measures	Implementation	Supervision	Cost in Indian Rupees
	service			company, telephone company etc	
		Schools and other public facilities will be relocated before the clearance to avoid stoppage of service provision of those facilities	HMPD through TNRDC / DRO	HMPD through TNRDC	Included in the RAP implementation cost
13.	Children's right	<ul style="list-style-type: none"> Schools will be relocated within the site or to the other location prior to the clearance to avoid stoppage of service provision 	HMPD through TNRDC / DRO	HMPD through TNRDC	Included in the RAP implementation cost
		<ul style="list-style-type: none"> The contractor will not employ any person below the age of 14 years for any work and no women will be employed on the work of painting with the products containing lead in any form 	Contractor	HMPD through TNRDC	Included in construction cost
14.	Sanitation public health, transmittable diseases including HIV/AIDS/ Corona Virus (Testing and Quarantine)	<ul style="list-style-type: none"> Eliminate environment for mosquito breeding at work areas, yards, office and camp. Staff for the project will be provided information on transmittable diseases including HIV/ AIDS/ Corona Virus (Testing and Quarantine) (included in item 29). 	Contractor	HMPD through TNRDC	Included in construction cost
15.	Work environment, occupational safety and health	<ul style="list-style-type: none"> Protective footwear and protective goggles to all workers employed on mixing of materials like cement concrete etc. No man below the age of 18 years and no women will be employed on the work of painting with products containing lead in any form 	Contractor	HMPD through TNRDC	Included in construction cost

SI No	Item	Mitigation Measures	Implementation	Supervision	Cost in Indian Rupees
16.		<ul style="list-style-type: none"> Staff of the Project will be provided 3 capacity building workshops on following topics (considering that the workers may come and go seasonally) Reporting system. works safety. Sanitation, public health, transmittable diseases including HIV, AIDS, Corona Virus (testing, quarantine, etc) 	Consultants/ NGO	HMPD through TNRDC	3,00,000
17.	Accidents, Crime	<ul style="list-style-type: none"> The construction area should be barricaded at all time in a day with adequate marking, flag, reflectors etc. for safety of general traffic movement and pedestrians. Prevention of accidents involving human beings, animals or vehicles falling or accidents during construction period. This needs to be ensured with proper barricading, signage boards and lighting etc. The Project engineer of HMPD will plan and direct the contractor to execute the work progressively so that the length of the open excavated trench is minimized in order to reduce possible accidents. All machines used will conform to the relevant Indian Standard Codes and will be regularly inspected by HD. The Contractor will arrange for: A readily available for first aid unit including an adequate supply of sterilized dressing materials and appliances as per the factory rules in every work zone. <p>Availability of suitable transport at all times to take injured or sick persons to the nearest hospital.</p> <ul style="list-style-type: none"> An emergency response team to be created. The team will contain members of the district and police administration and 	Contractor	HMPD through TNRDC	Included in construction cost

SI No	Item	Mitigation Measures	Implementation	Supervision	Cost in Indian Rupees
		<p>also have specialist in remediation. Responsibility of the Contractor to inform the team to take actions. The roles and responsibility of the members of the team will be framed in conjunction with all the parties to address the situation arising out of accidental spills resulting in situation like water and soil contamination, health hazards in the vicinity of the accident spot, fire and explosions, etc.</p> <ul style="list-style-type: none"> • <u>Work places remote and far away from regular hospitals will have indoor health units with one bed for every 250 workers.</u> 			
18.	Climate change, cross-border impacts	<ul style="list-style-type: none"> • Construction machineries, generators transport vehicles will be kept in good condition. 	Contractor	HMPD through TNRDC	Included in construction cost

Table - Environment Management Plan - Operation

SI No	Items	Mitigation Measures	Implementation	Supervision	Cost In Indian Rupees
1	Air pollution	<ul style="list-style-type: none"> Broad-leaved and pollution resistant species, which can grow in high pollutant concentrations or even absorb pollutants, will be planted as they help settle particulates with higher surface areas along with thick foliage, which can reduce the distance for which particulates are carried from the road itself. The air and noise level in the project area should be periodically monitored by HD. If the observed level is more than permissible limits, suitable mitigation measures should be taken. 	HMPD through TNRDC	HMPD through TNRDC	Included in monitoring cost
2	Water pollution	<ul style="list-style-type: none"> Water quality will be monitored regularly and preventive measures will be taken where pollution caused from the project is reported 	HMPD through TNRDC	HMPD through TNRDC	Included in monitoring cost
3	Noise and vibration	<ul style="list-style-type: none"> Noise conditions will be monitored regularly 	HMPD through TNRDC	HMPD through TNRDC	Included in monitoring cost
4	Ecology	<ul style="list-style-type: none"> When negative impacts on ecosystem are resulted from the project, remove the negative causes. 	HMPD through TNRDC	HMPD through TNRDC	Included in the regular management and monitoring cost
5	Hydrological situation	Suitable measures will be discussed and implemented with PWD when flooding or drainage problem that is caused by the project occurs.	HMPD Through TNRDC / PWD	HMPD Through TNRDC / PWD	Included in the regular management and monitoring cost
6	Water use, water rights	<ul style="list-style-type: none"> When any negative impacts cost by the project reported by Water users, Issues will be resolved through grievance redress mechanism. Since majority of the population in the region depends on groundwater, the project will monitor groundwater level near ROW. When groundwater level declines too far to fetch water because of the project, HMPD will negotiate with the affected parties and PWD to plan and implement measures such as increasing the depth of affected wells to minimize and 	HMPD through TNRDC /PWD	HMPD through TNRDC	Included in the regular management cost

SI No	Items	Mitigation Measures	Implementation	Supervision	Cost In Indian Rupees
		mitigate the impact			
7	Local economy, employment and living, livelihood	<ul style="list-style-type: none"> When any negative impact caused by the project are reported by water users, issues will be resolved through grievance redress mechanism. The project proposes to provide the minimum required public conveniences such as toilets and drinking water facilities at each of the rest areas. 	HMPD through TNRDC	HMPD through TNRDC	Included in the regular management cost
8	Children's right	<ul style="list-style-type: none"> When any negative impacts caused by the project are reported, issues will be solved through the grievance redress mechanism. 	HMPD through TNRDC	HMPD through TNRDC	Included in the regular management cost
9	Work environment, occupational safety and health	<ul style="list-style-type: none"> Staff and contractors will be provided safety education to minimize work accidents at Toll Plaza and regular repair and maintenance work. 	HMPD through TNRDC	HMPD through TNRDC	Included in the regular management cost
10	Accidents, crime	<ul style="list-style-type: none"> Following road safety facilities will be equipped and constructed such as: sidewalk (along the service Road), streetlights, median strip, shoulder stones, guardrails, warning signs, visual guide light, Road studs 	Contractor	HMPD through TNRDC	Included in construction cost
11	Climate change, cross-border in backs	<ul style="list-style-type: none"> Road surface will be kept in good condition so that vehicles will move smoothly with good speed and with emitting smaller amount of carbon dioxide 	HMPD through TNRDC	HMPD through TNRDC	Included in the regular maintenance cost

Attachment Env-02: Environmental Monitoring Plan

Environmental Monitoring Plan is Shown in following table. Underlined items are not included in the DPR 2017, but added in the Draft EIA Report submitted to TNSPCB in April

Table Environmental Monitoring Plan

Component	Parameter	Location	Frequency	Monitoring Implementation	Supervision	Cost (INR)
[Construction]						
Air Pollution	PM ₁₀ , PM _{2.5} , SO ₂ , NO _x , CO	5 Locations	Pre-Construction: Once Construction: Once in a Season (3 Years)	Contractor through approved monitoring agency	HMPD through TNRDC	1,700,000 (Including Operation Phase)
		2 Locations at Hot- Mix Plant	Construction: Once in a Season (2 Years)	Contractor through approved monitoring agency	HMPD through TNRDC	3,20,000
Water Pollution	[Surface Water] pH, BOD, COD, TDS, Pb, Oil & Grease, Detergents	5 Locations	Pre-Construction: Once Construction: Once in a Season (3 Years)	Contractor through approved monitoring agency	HMPD through TNRDC	1,700,000 (Including costs for Operation Phase 4 times per year for 3 years)
	[Ground Water] pH, TDS, Total Hardness, Sulphate, Chloride, Fe, Pb, Coliform Count	2 Locations at Hot- Mix Plant	Construction: Once in a Season (2 Years)	Contractor through approved monitoring agency	HMPD through TNRDC	3,20,000
Waste	Monitor Acceptable Segregation, Storage, Handling & Disposal	Work Area, Yard, Plant, Office, Camp	Daily (Patrol)	Contractor / Construction Supervision consultant	HMPD through TNRDC	Included in Construction Cost
Soil Quality	Pb, Sodium Absorption Ratio, Oil & Grease, Grain Size, Texture, pH, Conductivity, Calcium, Magnesium, Nitrogen	5 Locations	Pre-Construction: Once Construction: Once in a Season (3 Years)	Contractor through approved monitoring agency	HMPD through TNRDC	1,700,000 (Including costs for Operation Phase 4 times per year for 3 years)
		2 Locations at Hot- Mix Plant	Construction: Once in a Season (2 Years)	Contractor through approved monitoring agency	HMPD through TNRDC	3,20,000
Noise and Pollution	dB(A)	5 Locations	Pre-Construction: Once	Contractor through approved monitoring	HMPD through TNRDC	1,700,000 (Including costs for
			Construction: Once in a			

Component	Parameter	Location	Frequency	Monitoring Implementation	Supervision	Cost (INR)
			Season (3 Years)	agency		Operation Phase 4 times per year for 3 years)
		2 Locations at Hot- Mix Plant	Construction: Once in a Season (2 Years)	HMPD through TNRDC	HMPD through TNRDC	3,20,000
Eco System (Plantation)	Progress of Compensation plantation for felled trees	Location instructed by Tiruvallur District Forest Officer	Every Month	PIT in TNRDC	HMPD through TNRDC	Included in Construction Cost
(Roadside habitat)	Progress of transplanting of trees girth smaller than 90 cm	Near the ROW	Every Month	PIT in TNRDC	HMPD through TNRDC	Included in Construction Cost
	Securing Compensation Lent for RF conversion	Kancheepuram District	Every Month	HMPD through TNRDC	HMPD through TNRDC	Included in the regular personnel cost
	Confirmation of mitigation design to avoid soil runoff	NA	Pre-Construction: Once	PIT in TNRDC	HMPD through TNRDC	Included in the regular personnel cost
	Observation of Soil runoff outside of ROW	Near the ROW	Construction: Every Month	PIT in TNRDC	HMPD through TNRDC	Included in the construction cost
Hydrological Situation	Confirmation of Progress with PWD	Near the ROW	Every Month	Contractor / Construction Supervision consultant	HMPD through TNRDC	Included in the construction cost
Topography and Geographical Features	No Procurement from informal quarries or sources	Work area, Yard, Plant,	Every Month	Contractor / Construction Supervision consultant	HMPD through TNRDC	Included in the construction cost
Involuntary resettlement loss of land asset, business relocation	Progress of compensation and assistances progress of relocations, Progress of land acquisition	Near the ROW	Every Month	RAP Implementation consultant / NGOs	HMPD through TNRDC	Included in the RAP implementation cost
Water Use, Water rights	Payment for the affected wells, construction of alternative facilities	Near the ROW	Every Month	RAP Implementation consultant / NGOs	HMPD through TNRDC	Included in the RAP implementation cost

Component	Parameter	Location	Frequency	Monitoring Implementation	Supervision	Cost (INR)
Existing Public facilities, road and transportation facilities, social infrastructure, social service	Proper relocation of the affected public and community facilities	Near the ROW	Every Month	RAP Implementation consultant / NGOs HMPD through TNRDC / DRO	HMPD through TNRDC	Included in the RAP implementation cost
Split of community	Received grievances and complaints for difficulty of moving	Near the ROW	Every Month	RAP Implementation consultant / NGOs	HMPD through TNRDC	Included in the RAP implementation cost
Children's Rights	Age of workers must be 15 and over	work area, yard, plant	Every Month	Contractor / Construction Supervision consultant	HMPD through TNRDC	Included in Construction Cost
Sanitation, Public Health, Transmittable diseases including HIV/ AIDS	Occurrence of transmittable diseases such as Dengue Fever near work area	Near work area	Every Month	Construction Supervision Consultant	HMPD through TNRDC	Included in Construction Cost
Work Environment, occupational safety and health	Compliance with the work safety standards Training Building and Capacity	Work Area, Yard, Plant, Office, Camp Office	Every Day (Patrol)	Contractor / Construction Supervision consultant	HMPD through TNRDC	Included in Construction Cost
Accidents Crime	Implementation and effectiveness of traffic control and accident prevention at work area	Work area and near area	Every Day (Patrol)	Construction Supervision Consultant	HMPD through TNRDC	Included in Construction Cost
Climate Change, Cross Border impacts	Maintenance condition of the construction machineries and transportation vehicles	Work Area, Yard, Plant	Every Day (Patrol)	Contractor / Construction Supervision consultant	HMPD through TNRDC	Included in Construction Cost
[Operation]						
Air Pollution	PM ₁₀ , PM _{2.5} , SO ₂ , NO _x , CO	5 Locations	Once in a season (3 years)	Approved Monitoring agency	HMPD through TNRDC	Included in the cost for construction phase

Component	Parameter	Location	Frequency	Monitoring Implementation	Supervision	Cost (INR)
Water Pollution	[Surface Water] pH, BOD, COD, TDS, Pb, Oil & Grease, Detergents	5 Locations	Once in a season (3 years)	Approved Monitoring agency	HMPD through TNRDC	Included in the cost for construction phase
	[Ground Water] pH, TDS, Total Hardness, Sulphate, Chloride, Fe, Pb, Coliform Count					
Soil Quality	Pb, Sodium Absorption Ratio, Oil & Grease, <u>Grain Size, Texture, pH, Conductivity, Calcium, Magnesium, Nitrogen</u>	5 Locations	Once in a season (3 years)	HMPD through TNRDC/ Approved Monitoring agency	HMPD through TNRDC	Included in the cost for construction phase
Noise and Vibration	dB(A)	5 Locations	Once in a season (3 years)	HMPD through TNRDC / Approved Monitoring agency	HMPD through TNRDC	Included in the cost for construction phase
Eco System	Negative Impacts on natural habitat caused by soil runoff from ROW	Near the ROW	Every Month (1 Year)	HMPD through TNRDC / Approved Monitoring agency	HMPD through TNRDC	Included in regular road maintenance cost
	Negative impacts on pre- project ecosystem caused by increase of traffic and land use change	Near the ROW	Every Month (1 Year)	HMPD through TNRDC / Approved Monitoring agency	HMPD through TNRDC	Included in regular road maintenance cost
Water Use, Water rights	Decline of groundwater level at existing wells near the ROW compared to the pre-project condition	Near the ROW	Every Month (1 Year)	HMPD through TNRDC / Approved Monitoring agency	HMPD through TNRDC	Included in regular road maintenance cost
Monitoring of Management & Operational Performance Indicators	Reporting all monitoring items		10 months	HMPD through TNRDC / Foresters	HMPD through TNRDC	4,00,000
Monitoring and Evaluation External Agency	Outsourcing			External Agency (Independent Expert)	HMPD through TNRDC	20,00,000

Attachment Env-03: Environmental Monitoring Form

Monitoring Form (Planning and Construction phase)

(1) Permission and authorization

Monitoring Item	Record of Conditions
Responding to issues pointed out by Authorities	
Construction Workers Camp	
1. Adequate No. of toilets shall be provided separately for males and females (as per EIA)	Adequate toilets provided
2. At every construction site, provision of a day creche shall be made to enable women to leave behind their children while going to work. At least one attendant shall be provided to take care of the children at the creche. (as per EIA)	
Avoidance of Soil Runoff	
Confirm appropriate design and construction plan is proposed by the consultant and the contractor to avoid soil runoff during and after the construction phase	Confirmed

(2) Pollution

Air Quality [Frequency: (Planning phase) Once, (Construction phase) Quarterly]

Item	Unit	Measured value (Mean)	Measured value (Maximum)	Baseline value	CPCB Standards	Measurement Point	Sampling Date
PM ₁₀	µg/m ³	59.2	65	18.8 ~ 293.1	100	1. 0+000	22-04-'21 / 23-04-'21
PM _{2.5}	µg/m ³	20.6	24	10.2 ~ 300.8	60	2. 7+300	22-04-'21 / 23-04-'21
SO ₂	µg/m ³	5.7	6.3	0 ~ 40.5	80	3. L3+600 (Minjur),	22-04-'21 / 23-04-'21
NO _x	µg/m ³	22.6	27	0 ~ 77.2	80	4. 10+100	22-04-'21 / 23-04-'21
CO	ppm	1.14	1.14	BQL	4	5. 20+700	22-04-'21 / 23-04-'21

Water Quality [Frequency: (Planning phase) Once, (Construction Phase) Quarterly]

Item	Unit	Measured value (Mean)	Measured value (Max)	Baseline value	Country's Standards	Measurement Point	Sampling Date
[Surface Water]							
pH	-	7.4	8.5	7.05 ~ 7.83	5.5 ~ 9.0*	0+850 (Kattupalli), 2+200 (Voyalur), 7+700 (Neidavoyal), 10+300 (Nallur), 17+150 (Amur)	22-04-'21 / 23-04-'21
BOD	mg/L	15.1	30.0	-	<30*		22-04-'21 / 23-04-'21
COD	mg/L	78.6	211.0	-	<250*		22-04-'21 / 23-04-'21
TDS	ppm	12995.8	33930	-	N/A		22-04-'21 / 23-04-'21
SS	mg/L	311.8	1278	3.8 ~ 2.32	<100*		22-04-'21 / 23-04-'21
Pb	mg/L	.05	0.05		<0.1*		22-04-'21 / 23-04-'21
Oil & Grease	mg/L	2	2		<10*		22-04-'21 / 23-04-'21
Detergents	mg/L	0.2	0.2		<0.2**		22-04-'21 / 23-04-'21
[Ground Water]							
pH	-			-	8.5**		
TDS	ppm			-	<2000**		
Total Hardness	mg/L			-	<300**		
Sulphate	mg/L			-	<400**		
Chloride	mg/L			-	<1000**		
Fe	mg/L			-	<1.00**		
Pb	mg/L			-	No Relaxation**		
Coliform Count	No/dl			-	<10**		

Add lines when necessary

* BIS:2490, PART-I-1981

**BIS: IS: 10500, 1991 Drinking Water standard

Noise Levels [Frequency: (Planning phase) once, (Construction phase) Quarterly]

Item	Unit	Measured value (Mean)	Measured value (Max)	Baseline value	Country's Standards	Measurement Point	Sampling Date
Noise (DAY)	dB(A)	52.5 & 57.6	53.3 & 61.6	37.9 ~ 70.1	55	0+000 (Ennore), 7+300 (Neidavoyal), L3+600 (Minjur), 10+100 (Nallur), 20+700 (Panjetty)	22-04-'21 / 23-04-'21
Vibration (DAY)	m/s	2.3 & 3.6	2.6 & 3.7	0.1 ~ 2.2	5		22-04-'21 / 23-04-'21
Noise (Night)	dB(A)	43.4 & 53.0	44.1 & 54.6	34.1 ~ 60.1	55		22-04-'21 / 23-04-'21
Vibration (Night)	m/s	2.3 & 3.6	2.6 & 3.7	0.1 ~ 1.9	5		22-04-'21 / 23-04-'21

Soil Quality [Frequency: (Planning phase) once, (Construction phase) Quarterly]

Item	Unit	Measured value (Mean)	Measured value (Maximum)	Baseline value	Referred International Standards	Measurement Point	Sampling Date
Pb	mg/L	2.72	3.8	0.01		1+300 (Ennore), L0+200 (Neidavoyal), L2+900 (Minjur), 10+200 (Nallur), 20+800 (Panjetty)	22-04-'21 / 23-04-'21
Sodium Absorption Ratio	-	0.43	1.44	N/A			22-04-'21 / 23-04-'21
Oil & Grease	mg/L	10	10	N/A			22-04-'21 / 23-04-'21
Texture		Clay : 13.8 % Silt : 48.6 % Sand : 38.4 %	Clay : 32 % Silt : 77 % Sand : 91 %	N/A			22-04-'21 / 23-04-'21
Grain Size	-	Retained in 10 mm : 19.94 % Retained in 4.75 mm : 38.70 % Retained in 2 mm : 21.26 % Retained in 425 μ : 15.06 %	Retained in 10 mm : 33.10 % Retained in 4.75 mm : 56.10 % Retained in 2 mm : 31.40 % Retained in 425 μ : 33.70 %	N/A			22-04-'21 / 23-04-'21

Item	Unit	Measured value (Mean)	Measured value (Maximum)	Baseline value	Referred International Standards	Measurement Point	Sampling Date
		Retained in 75 μ : 4.02 %	Retained in 75 μ : 13.10 %				
pH	-	5.51	6.71	N/A			22-04-'21 / 23-04-'21
Conductivity	S/m	350	749	N/A			22-04-'21 / 23-04-'21
Calcium	mg/L	76.78	196.50	N/A			22-04-'21 / 23-04-'21
Magnesium	mg/L	287.96	458.70	N/A			22-04-'21 / 23-04-'21
Sodium	mg/L			N/A			22-04-'21 / 23-04-'21
Nitrogen	mg/L	0.02	0.03	N/A			22-04-'21 / 23-04-'21

*The Soil contamination Counter measures Act 2002, Japan

(2) Monthly Patrol, observation, and recording during the construction works - By Contractor

Date:		Location	Findings (Enter either approved or Need action)	Record of conditions	Actions Taken	Recorded by (Name)
Item	Parameters					
Ground Subsidence	Progress measure Confirmation of soft ground	Around the project road				
Hydrometeorology	Confirm progress with PWD	Around the project road				
Topography/Geology	Confirmation of proper material purchase situation	Storage				
Ecosystem (Impacts on habitats near ROW)	confirmation of no soil runoff outside of ROW	Near ROW				
Children's rights	Confirmation of prevention of child labour	Office / Construction sites/ Camp sites				

- By PIT (Foresters)

Date:		Location	Findings (enter either approved or Need action)	Record of conditions	Actions Taken	Recorded by (Name)
Item	Parameters					
Ecosystem	Confirmation of cutting trees for cutting trees	Around the project road	Approved			
	Confirmation of transplantation of trees less than 90 cm in circumference	Around the project road	Approved			
	Acquisition of RF substitute area	Kanchipuram District	Not Applicable			

By Consultant or NGO's

Date:		Location	Findings (Enter either approved or Need action)	Record of conditions	Actions Taken	Recorded by (Name)
Item	Parameters					
Resettlement	See RAP monitoring forms	Around the project road				
Water use	Compensation for affected wells / confirm progress of construction of alternative facilities	Around the project road				
Existing Infrastructure and social services	Confirm relocation of affected public facilities etc.	Around the project road				
Community division	Information Enlightenment provision, Complaints reception campaigns,	Around the project road	Need Action			
Infectious diseases such as HIV / AIDS etc.	Confirmation of the occurrence of infectious diseases such as dengue at construction sites	Around the project road / Camp sites	Approved	Awareness Programme conducted		
Work environment, Work safety	Capacity building workshop (1 day each) For engineers including ESE for Skilled and unskilled laborers for Engineers and staff of the contractor office and PMC staff	Around the project road / Office / Camp sites	Approved			

4) Everyday patrol, observation, and recording during the construction works by the Contractor

Date:		Location	Findings (Enter either approved or Need action)	Record of conditions	Actions Taken	Recorded by (Name)
Item	Parameters					
Waste	Appropriate separation and confirmation of storage, appropriate treatment and disposal	Office / Construction Sites / Camp sites				
Work Environment, Work Safety	Compliance to safety standards/ Implementation of safety tools	Construction sites				
Accidents / Crimes	Confirmation of adequate traffic guidance and accident prevention measures	Around the project road/ Construction sites				
Transboundary impact and climate change	Confirmation of proper maintenance status of construction machinery / transport vehicle party	Construction sites				

Add lines when necessary

(5) Other Coordination

Grievance concerning environmental impact

Number of complaints	Details	Correspondence and Results

Other Points of Attention (Free Writing)

Monitoring Form (Operation Phase)

(1) Monitoring report and evaluation

Item	Parameters	Findings (Enter either approved or Need action)	Record of conditions	Actions Taken	Frequency	Recorded by (Name)
Monitoring of Management & Operational Performance Indicators	Status of Redevelopment of Borrow Areas	After Project Completion			For 10 months	
	Waste Management Quality Monitoring	Need Action			For 10 months	
	Monitoring environmental parameters	Approved			For 10 months	
Monitoring and Evaluation External Agency	Implementation					

(2) Pollution

Air Quality [Frequency: Quarterly]

Item	Unit	Measured Value (Mean)	Measured Value (Max)	Baseline Value	CPCB Standards	Measurement Point	Sampling Date
PM ₁₀	µg/m ³	62	70	18.8 ~ 293.1	100	1. Ch 7+200	29-03-2023 - 30-03-2023
PM _{2.5}	µg/m ³	25.2	30	10.2 ~ 300.8	60	2. Ch 7+800	29-03-2023 - 30-03-2023
SO ₂	µg/m ³	5.05	5.5	0 ~ 40.5	80	3. Ch 11+300	29-03-2023 - 30-03-2023
NO _x	µg/m ³	23	27	0 ~ 77.2	80	4. Ch 12+300	29-03-2023 - 30-03-2023
CO	ppm	BDL	BDL	BQL	4	5. Ch 3+680 (Link road)	29-03-2023 - 30-03-2023

Water Quality [Frequency: Quarterly]

Item	Unit	Measured Value (Mean)	Measured Value (Max)	Baseline Value	Country's Standards	Measurement Point	Sampling Date
[Surface Water]							
pH	-	7.878	8.91	7.05 ~ 7.83	5.5 ~ 9.0*	(1) Ch 0+050 (2) Ch 2+400 (3) Ch 7+200 (4) Ch 7+800 (5) Ch 17+250	30-03-2023
BOD	mg/L	6	10	-	<30*		30-03-2023
COD	mg/L	26.8	40	-	<250*		30-03-2023
TDS	ppm	8710	22971	-	N/A		30-03-2023
SS	mg/L	36.8	100	3.8 ~ 2.32	<100*		30-03-2023
Pb	mg/L	BDL	BDL		<0.1*		30-03-2023
Oil & Grease	mg/L	BDL	BDL		<10*		30-03-2023
Detergents	mg/L	BDL	BDL		<0.2**		30-03-2023
[Ground Water]							

Item	Unit	Measured Value (Mean)	Measured Value (Max)	Baseline Value	Country's Standards	Measurement Point	Sampling Date
pH	-	7.35	7.87	-	8.5**	(1) Ch 3+680 (2) Ch 7+200 (3) Ch 7+800 (4) Ch 11+300 (5) Ch 12+3000	30- 03-2023
TDS	ppm	1280	1955	-	<2000**		30- 03-2023
Total	mg/L	485.6	954	-	<300**		30- 03-2023
Hardness		106.8	174				30- 03-2023
Sulphate	mg/L	538.2	913	-	<400**		30- 03-2023
Chloride	mg/L	7.35	7.87	-	<1000**		30- 03-2023
Fe	mg/L	BDL	BDL	-	<1.00**		30- 03-2023
Pb	mg/L	BDL	BDL	-	No Relaxation**		30- 03-2023
Coliform Count	No/dl			-	<10**		30- 03-2023

* BIS:2490, PART-I-1981

**BIS: IS: 10500, 1991 Drinking Water standard

Noise Levels [Frequency: Quarterly]

Item	Unit	Measured Value (Mean)	Measured Value (Max)	Baseline Value	Country's Standards	Measurement Point	Sampling Date
Noise (Day)	dB(A)	61.1	67.4	37.9 ~ 70.1	55	• 7+200 • 7+800 • 11+300 • 12+300 • 3+680 (Link Road)	29-03-2023 - 30- 03-2023
Noise (Night)	dB(A)	50.34	55.9	34.1 ~ 60.1	55		29-03-2023 - 30- 03-2023
Vibration	mm/s	0.45	0.7	0.1 ~ 1.22	5	• Ch 7+150 • Ch 7+800	29-03-2023 - 30- 03-2023

Soil Quality [Frequency: Quarterly]

Item	Unit	Measured Value (Mean)	Measured Value (Max)	Baseline Value	Referred International Standards	Measurement Point	Sampling Date	
pH		6.624	7.35	0.01		1. Ch 0+710 2. Ch 7+150 3. Ch 7+800 4. Minjur Link Rd (Ch 3+680) 5. Ch 20+850	30- 03-2023	
Oil & Greece	g/100g	BDL	BDL	N/A			30- 03-2023	
Lead	mg/kg	BDL	BDL	N/A			30- 03-2023	
Soidum Absorption Ratio	meq/kg	0.94	1.2	N/A			30- 03-2023	
Electrical Conductivity	μmohs/s ec	331.4	854	N/A			30- 03-2023	
Total Nitrogen	%	0.07	0.13	N/A			30- 03-2023	
Calcium	mg/kg	388	582	N/A			30- 03-2023	
Magnesium	mg/kg	140.4	258	N/A			30- 03-2023	
Grain Size a. 4.75 mm b. 2 mm c. 425 micron d. 75 micron	%	a. 9.4 b. 21 c. 57 d. 14.2	a. 15 b. 26 c. 61 d. 22	N/A			30- 03-2023	
Texture i. Percent Clay ii. Silt iii. Sand		%	i. 13.6 ii. 51.8 iii. 34.6		i. 29 ii. 72 iii. 50			N/A

*The Soil contamination Counter measures Act 2002, Japan

(3) Ecology and Water Use [Frequency: Quarterly]

Item	Parameters	Findings (Enter either approved or Need action)	Record of conditions	Actions Taken	Frequency	Recorded by (Name)
Ecology	Monitoring soil runoff from ROW affecting habitat outside of ROW				Quarterly for one Year	
	Monitoring of negative impacts on ecosystem outside of ROW caused by increase of traffic and land use change				Quarterly for one Year	
Water Use	Ground water level at existing wells near the ROW (Decline compared to pre-project level)				Quarterly for one Year	

Attachment Env-04 : Implementation Mechanism of Mitigation and Monitoring Measures

(1) Implementation System in Construction Phase

HMPD will assign TNRDC to implement the project. TNRDC will form the Project Implementation Team (PIT) within its organization. The Project Director will be the focal person in supervision and reporting of implementation of EMP and EMoP to HMPD Divisional Engineer (DE) every month.

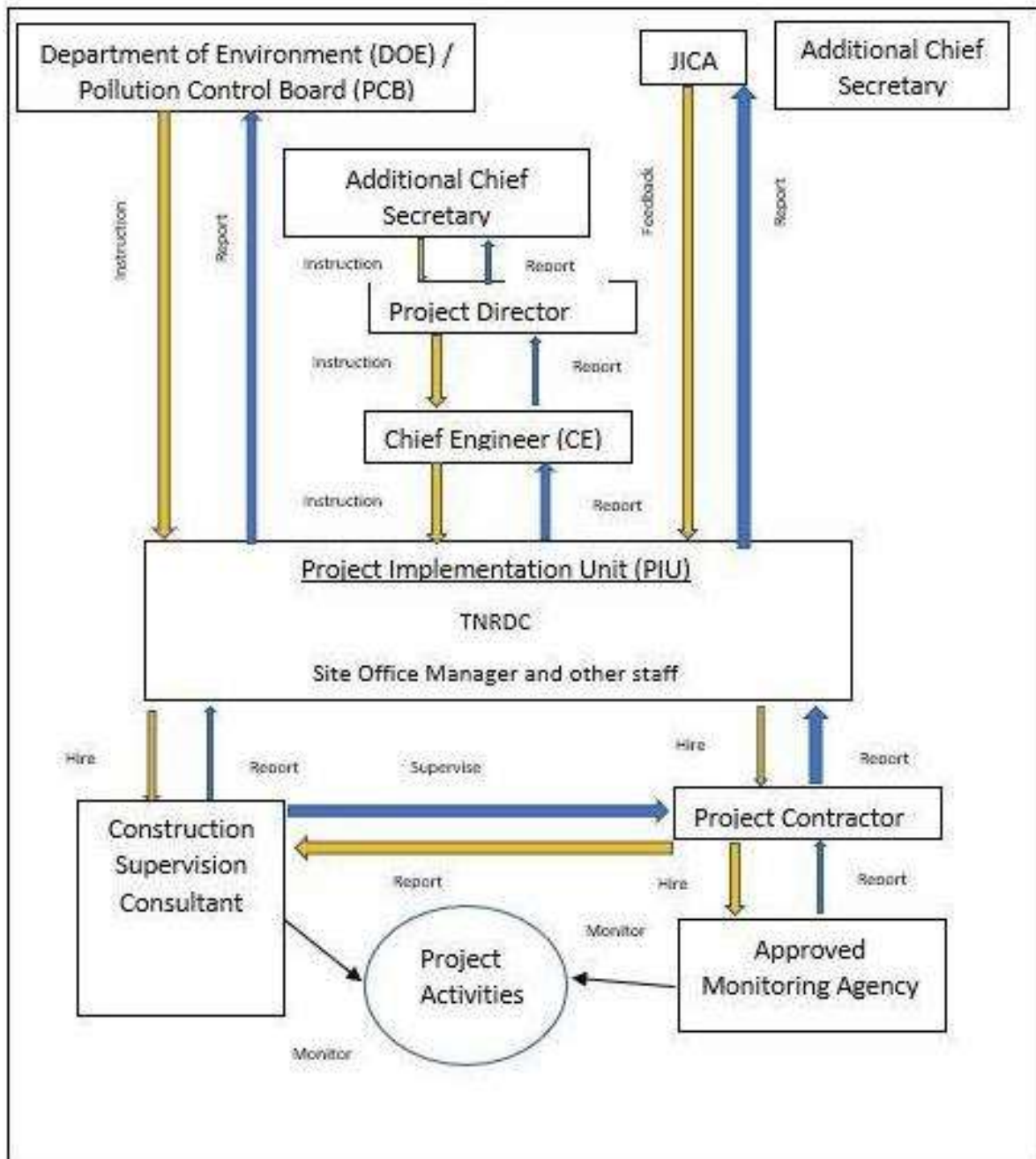


Figure: Implementation structure during the Construction Phase

(2) Implementation System in Operation Phase

In the Operation Phase, the Project Director of the PIT in TNRDC will still be the focal person in supervision and reporting of implementation of EMP and EMoP.

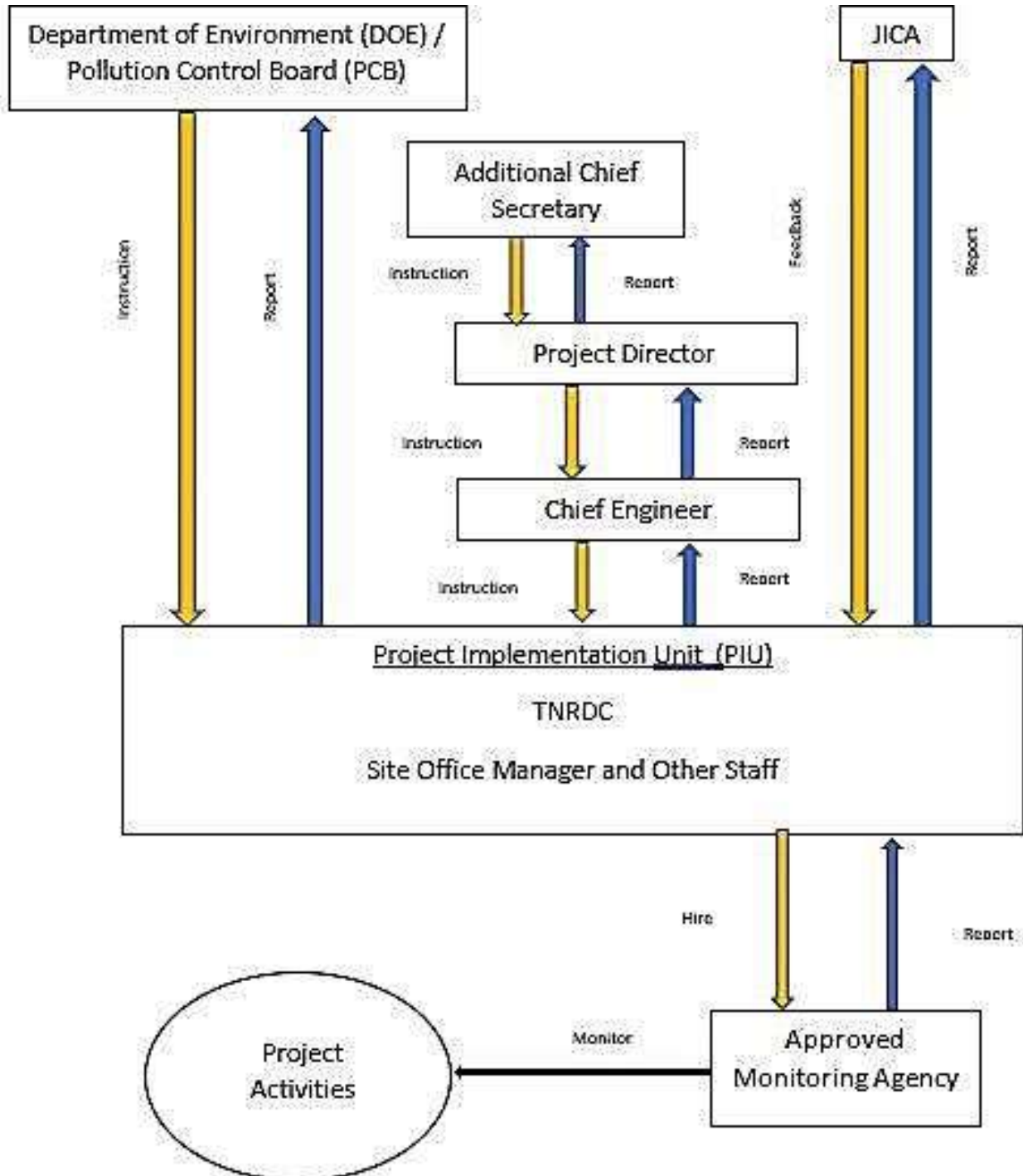


Figure : Implementation Structure During the Operation Phase

Attachment Env 05: Entitlement Matrix

Table Entitlement Matrix

(Imp N/C = RAP Implementing NGO or Consultant)
Revised Rates are as per the Letter : R.C.No.1015/CPRR/Unit rate/2022 Dated 30.08.2022

SI No	Impact Category	Entitlements	Implementation Guidelines	Implementati on Agency	Assisting Agency
Section I : Title Holders - Loss of Private Property					
1	Loss of Land (agricultural, homestead, commercial or otherwise)	a	Compensation for land	HMPD through TNRDC	M/s AGEES - CRADLE Jv.

¹ G.O.(Ms) No.300, Revenue & Disaster Management (LA-I(1)), dated 20-09-2017.

[Factor by which the market value to be multiplied based on the distance of the Project Area from Urban Areas is as follows: Within 30 Kilometres - by 1.25, Beyond 30 Kilometres and within 50 Kilometres - by 1.50 and Beyond 50 Kilometres - by 2.00]

² Inserted vide amendment GO (D) No.174 of Highways and Minor Ports (HN2) Department dated 25-07-2017

SI No	Impact Category	Entitlements	Implementation Guidelines	Implementati on Agency	Assisting Agency
		b	<p>Agricultural landowners whose primary sources of livelihood is lost due to the land acquired will be entitled for Rs.6,09,900 as onetime payment in lieu of annuity policy</p> <p>Registered tenants in private land, registered tenant cultivators in HR&CE land, registered Bhoodan Land occupiers and registered tenants in private land, who lose 1/3rd of annual family income due to the acquisition of the said agricultural land will also be eligible to receive this entitlement, provided they had submitted a self- sworn affidavit that they have been tenants for 3-years prior to the date of notification.</p>	HMPD through TNRDC	M/s AGEES - CRADLE Jv.
2	Loss residential structure	of a	<p>In addition to Compensation for land and Assistances listed above under S.No.1</p> <p>Cash compensation at replacement cost with 100% solatium.</p> <p>Replacement cost is the rate determined based on the prevailing schedule of rates updated by the panel of competent engineers every year.</p> <p>In case of partly affected house, manufactory or other building, as per Section 94 (1), the whole structure may be acquired, if the owner so desires</p> <p>The affected person has the option of surrendering the full house or the building when the impact is partial. In the event of the affected person not wanting to surrender the remaining portion of the building, she/he may be asked to provide her/his decision in writing to the jurisdictional Special DRO. In the event the person has opted to surrender the full house or the building, when the impact is partial, the whole building has to be demolished by the affected person without fail, failing which, the whole building will be</p>	HMPD through TNRDC	M/s AGEES - CRADLE Jv.

³ Family is defined as per section 3(m) of RFCTLARR Act 2013.

SI No	Impact Category	Entitlements	Implementation Guidelines	Implementati on Agency	Assisting Agency	
			demolished by the department at the risk and cost of the affected person ⁴ .			
		b	Right to salvage affected materials without cost	HMPD through TNRDC	M/s AGEES - CRADLE Jv.	
		c	One-time assistance of Rs.31,210 for each affected family of an artisan or self-employed and who has to relocate.	HMPD through TNRDC	M/s AGEES - CRADLE Jv.	
		d	An alternative house as per IAY specifications in rural areas and a constructed house/flat of minimum 50 sqm. in urban areas or cash in lieu of house if opted (the cash in lieu of house will be Rs.1,49,800 ⁵ in line with GoI IAY standards in rural areas and Rs.1,87,240 in case of urban areas), for those who have to relocate.	Stamp duty and registration charges will be borne by the project in case of new houses or sites. Patta will be issued in the name of the wife/women ⁶ of the household	HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		e	One time transitional / subsistence allowance of Rs.44,940 for affected households who require to relocate due to the project	HMPD through TNRDC	M/s AGEES - CRADLE Jv.	
		f	Shifting assistance of Rs.62,410 for those who have to relocate	HMPD through TNRDC	M/s AGEES - CRADLE Jv.	
		g	One-time Resettlement Allowance of Rs.62,410 for those who have to relocate	HMPD through TNRDC	M/s AGEES - CRADLE Jv.	

⁴ Inserted vide amendment GO (D) No.174 of Highways and Minor Ports (HN2) Department dated 25-07-2017

⁵ Revised in accordance with GoI revised norms for PMAY-G (restructured IAY) vide GoTN amendment GO (D) No.174 of Highways and Minor Ports (HN2) Department dated 25-07-2017

⁶ In accordance with GO Ms.No.1763 of Revenue Department dated 19-11-1987

SI No	Impact Category	Entitlements	Implementation Guidelines	Implementati on Agency	Assisting Agency	
		h	Residential structure owners, who are deriving rental income from the affected structure in the land acquired and whose primary source of livelihood is lost will be entitled for Rs.6,09,900/- as onetime payment in lieu of annuity policy	Any affected family whose livelihood is primarily dependent (loses one-third of the annual family income due to the acquisition of the said residential structure) on the rental income from the acquired residential building will be treated as livelihood lost, will be entitled for Rs.6,09,900/- as onetime payment in lieu of annuity policy	HMPD through TNRDC	M/s AGEES - CRADLE Jv.
3	Loss of Commercial structure	a	<p>In addition to Compensation for land and Assistances listed above under S.No.1</p> <p>Cash Compensation at replacement cost with 100% solatium.</p>	<p>Replacement cost is the rate determined based on the prevailing schedule of rates updated by the panel of competent engineers every year</p> <p>In case of partly affected house, manufactory or other building, as per Section 94 (1), the whole structure may be acquired, if the owner so desires</p> <p>The affected person has the option of surrendering the full house or the building when the impact is partial. In the event of the affected person not wanting to surrender the remaining portion of the building, she/he may be asked to provide her/his decision inwriting to the jurisdictional Special DRO. In the event the person has opted to surrender the full house or the building, when the impact is partial, the whole building has to be demolished by the affected person without fail, failing which, the whole building will be demolished by the department at the risk and cost of the affected person⁷.</p>	HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		b	Right to salvage affected materials without cost		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		c	One-time grant of Rs.31,210 for loss of trade/self-employment for the business owner	If the business owner is different from the structure owner, the onetime grant for loss of trade/self-employment, will be paid to the business owner.	HMPD through TNRDC	M/s AGEES - CRADLE Jv.

⁷ Inserted vide amendment GO (D) No.174 of Highways and Minor Ports (HN2) Department dated 25-07-2017

SI No	Impact Category	Entitlements		Implementation Guidelines	Implementati on Agency	Assisting Agency
		d	One-time transitional livelihood and subsistence allowance of Rs.44,940 for affected households who require to relocate due to the project		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		e	Shifting assistance of Rs.62,410 for those who have to relocate		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		f	One-time Resettlement Allowance of Rs.62,410 for those who have to relocate		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		g	Commercial structure owners, who are deriving business income and/or rental income from the affected structure on the land acquired, and whose primary source of livelihood is lost due to the land acquired will be entitled for Rs.6,09,900/- as onetime payment in lieu of annuity policy.	Any affected family, whose livelihood is primarily dependent (loses one-third of the annual family income due to loss of business operation carried out from the acquired commercial structure) on the business income derived from the acquired commercial structure will be treated as livelihood lost. Any affected family, whose livelihood is primarily dependent (loses one-third of the annual family income due to loss of the acquired commercial structure) on the rental income derived from the acquired commercial structure will be treated as livelihood lost.	HMPD through TNRDC	M/s AGEES - CRADLE Jv.
4	Loss of other structure	a	Cash Compensation for the structure at replacement cost with 100% solatium.	Replacement cost is the rate determined based on the prevailing schedule of rates updated by the panel of competent engineers every year	HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		b	One-time assistance of Rs.31,210 to all households who lose a cattle shed		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		c	Right to salvage material without cost		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
5	Impact tenants to	5.1	Residential		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		a	1-month notice to vacate the rental			

SI No	Impact Category	Entitlements	Implementation Guidelines	Implementati on Agency	Assisting Agency	
	(residential commercial / agricultural)		premises			
		b	Rental allowance at Rs.3,740 per month in rural areas and Rs.4,990 per month in urban areas, for six months		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		c	Shifting assistance of Rs.12,480		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		5.2	Commercial		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		a	1-month notice to vacate the rental premises			
		b	Rental allowance at Rs.4,990 per month in rural areas and Rs.7,490 per month in urban areas, for six months		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		c	Shifting assistance of Rs.12,480		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		d	Commercial tenants will receive the one-time grant of Rs.31,210 for loss of trade/self-employment provided under 3(c) above in lieu to the owner		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		5.3	Agricultural Tenants		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		a	In case of agricultural tenants advance notice to harvest crops or compensation for lost crop at market value of the yield determined by the Agricultural Department			
6	Impact to trees, standing crops, other properties, perennial and non-perennial crops:	a	Three months (90 days) advance notification for the harvesting of standing crops (or) lump sum equal to the market value of the yield of the standing crop lost determined by the Agricultural Department		HMPD through TNRDC	M/s AGEES - CRADLE Jv.

SI No	Impact Category	Entitlements		Implementation Guidelines	Implementati on Agency	Assisting Agency
		b	Compensation for trees based on timber value at market price to be determined by the Forest Department for timber trees and for other trees (perennial and fruit trees) by the Agriculture/ Horticultural Department, which includes value of productive life of fruit trees, with 100% solatium		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		c	Loss of other properties such as irrigation wells will be compensated at replacement cost with 100% solatium.		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
Section II : Additional Assistance for Women (Title and Nontitle holders)						
7	Loss of Land / house / shop	a	Reimbursement of stamp duty and registration charges, for purchase of property out of the compensation/ R&R assistance.	The property should be purchased in the name of a women in the household and registered either in her name or jointly with one or more member of the household. The registration shall be done within 3-years from LA award/R&R award.	HMPD through TNRDC	M/s AGEES - CRADLE Jv.
Section III : Non-Title Holders - Impact to squatters / Encroachers						
8	Impact Squatters to	8.1	Loss of House	Replacement cost is the rate determined based on the prevailing schedule of rates updated by the panel of competent engineers every year.	HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		a	Compensation at replacement cost.		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		b	Right to salvage the affected materials without cost		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		c	House construction grant of Rs.87,380 for all those who have to relocate and who do not have another house. Additional house site grant of Rs.62,410 to those who do not have a house site,		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		d	One-time subsistence allowance of		HMPD through TNRDC	M/s AGEES - CRADLE Jv.

SI No	Impact Category	Entitlements	Implementation Guidelines	Implementati on Agency	Assisting Agency
		Rs.22,470			
		e Shifting assistance of Rs.12,480		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		8.2 Loss of shop a Compensation at replacement cost	Replacement cost is the rate determined based on the prevailing schedule of rates updated by the panel of competent engineers every year	HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		b Right to salvage the affected materials without cost		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		c One-time rehabilitation grant of Rs.24,970 for reconstruction of affected shop		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		d One-time subsistence allowance of Rs.22,470 for loss of business income		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		e Shifting assistance of Rs.12,480		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		8.3 Loss of Kiosk One-time rehabilitation grant of Rs.21,960 for Kiosks affected significantly and having to relocate		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		8.4 Loss of other structure	Replacement cost is the rate determined based on the prevailing schedule of rates updated by the panel of competent engineers every year	HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		a Compensation at replacement cost		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		b Right to salvage material without cost		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		8.5 Cultivation a 2-month notice to harvest standing crops or market value of compensation for standing crops		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		b Fruit bearing trees	Market value of compensation for fruit bearing trees	HMPD through TNRDC	M/s AGEES - CRADLE Jv.

SI No	Impact Category	Entitlements	Implementation Guidelines	Implementati on Agency	Assisting Agency	
9	Impact to Encroachers	9.1	Cultivation	Replacement cost for the loss of standing crops will be decided by the Spl. DRO in consultation with the Agriculture or Horticulture Department.	HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		a	2-month notice to harvest standing crops or market value of compensation for standing crops, if notice is not given.			
		b	Fruit bearing trees	Market value of compensation for fruit bearing trees	HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		9.2	Structure	Replacement cost is the rate determined based on the prevailing schedule of rates updated by the panel of competent engineers every year.	HMPD through TNRDC	M/s AGEES - CRADLE Jv.
		a	1-month notice to demolish the encroached structure			
b	Compensation at replacement cost for the affected portion of the structure					
c	Right to salvage material without cost		HMPD through TNRDC	M/s AGEES - CRADLE Jv.		
Section IV : Loss of other Livelihood Opportunities						
10	Loss of employment in agricultural or non-agricultural activities or other wage workers	a	Subsistence allowance equivalent to minimum agricultural wages for 3 months	Only agricultural or non-agricultural labourers who are in fulltime / permanent employment of the landowner, or full-time employees of the affected business, will be eligible for this assistance. Seasonal agricultural labourers will not be entitled for this assistance.	HMPD through TNRDC	M/s AGEES - CRADLE Jv.
Section V : Impact to Vulnerable Affected Persons						
11	Vulnerable Households ⁸	a	Training for skill development to one member of each vulnerable households.	One adult member of the vulnerable households whose livelihood is affected, will be entitled for skill development.	HMPD through TNRDC	M/s AGEES - CRADLE Jv.

⁸ Vulnerable Group includes but is not limited to the following categories: 1.DPs falling under 'Below Poverty Line '(BPL) category, as identified by the planning Commission of India's State specific rural poverty line and updated to current period using CPIRIL; 2.Landless people; 3.persons who belong to Scheduled Castes (SC) and Scheduled Tribes (ST); 4.Woman Headed Household; 5.Childred (PAPs up to 14 years have been considered as children) and elderly people (PAPs over 60 years of age have been considered as elderly people in the project), including orphans and destitute; and 6.Physically and mentally challenged / disabled people.

SI No	Impact Category	Entitlements	Implementation Guidelines	Implementati on Agency	Assisting Agency
		This assistance includes cost of training and financial assistance for travel/conveyance and food.	The LARRU with support from the NGO will identify the number of eligible vulnerable persons based on the 100% census of the displaced persons and will conduct training need assessment in consultations with the displaced persons so as to develop appropriate training programmes suitable to the skill and the region. Suitable trainers or local resources will be identified by LARRU and NGO in consultation with local training institutes.		
	b	One-time assistance of Rs.6,240 for physically displaced residential and economically displaced commercial vulnerable households.		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
	c	Displaced Vulnerable households will be linked to the government welfare schemes, if found eligible and not having availed the scheme benefit till date.		HMPD through TNRDC	M/s AGEES - CRADLE Jv.
Section VI. Unforeseen Impacts					
Unforeseen impacts encountered during implementation will be addressed in accordance with the principles of RFCTLARR Act				HMPD through TNRDC	M/s AGEES - CRADLE Jv.

**In accordance with GO Ms.No.1763 of Revenue Department dated 19-11-1987 :*

(a) Squatter: Illegal occupants on private land

(b) Encroacher: Illegal occupants on government land

Source: JICA Study Team based on DPR Annexure 3

Attachment Env 06 : The RAP Monitoring Form

The RAP Monitoring Form

Preparation of Resettlement Sites (Where Necessary)

SI No	Explanation of the Site (e.g. Area, No. of resettlement HH etc.)	Status (Complete (Date) / Not Complete)	Details (e.g. Site selection, identification of candidate's sites, discussion with PAPs, Development of the site, etc.)	Expected Date of Completion
1	<p>As per serial number 2 of the entitlement matrix, the residential displaced titleholder PAPs are eligible for constructed house in addition to the compensation at replacement cost.</p> <p>As per the census survey revalidation done by the land acquisition and resettlement and rehabilitation implementation consultant (LARRIC) 49 title holder families would lose their residence and one title holder family will lose their residence cum commercial shop.</p>	In Progress	<p>LDR handed over to RE(HW), Tiruvallur for Kattupalli, Voyalur, Neidavoyal-I, II & Block-III, Kalpakkam, Nalur - I & II, Anuppampattu-II, Vannipakkam, Amoor-I, Thatchur-I & II, Jaganathapuram-I & II, Panjetty, Jaganathapuram II Block II, Kolatti, Nandiambakkam, Minjur I, Minjur II, Neidavoyal Block IV, Panjetty Block II and Nalur Block II, {Addl. Neidhavoyal-I(Block-V), Minjur-I(Block-II), Nalur-I(Block-II), Neidhavoyal-I&II(Block-VI), Kalpakkam(Block-II)}</p> <ul style="list-style-type: none"> Kollati, Vannipakkam, Neidavoyal Block II, Jaganathapuram, Nalur Block - I, Nallur Block II, Minjur-II Panchetty Block I, Panjetty Block II, Minjur I and Thatchur-II R&R compensation released by HMPD. 	June 2023

Public Consultation

No	Date	Place	Contents of the consultation / main comments and answers
1	29-07-'20, 30-07-'20 & 31-07-'20	Kannayya Naidu Thirumana Mandapam, Venpakkam, Ponneri	<p>Award enquiry has been completed for all villages.</p> <p>The land acquisition procedures, R & R benefits (entitlement matrix) and timeline for project implementation etc. were explained to the PAP's.</p> <p>Their perception about the project, resettlement options etc. is also gathered in the meeting.</p> <p>All consultation activities were conducted as per the COVID-19 protocol.</p>
2	24-08-'20, 25-08-'20 & 26-08-'20	Kannayya Naidu Thirumana Mandapam, Venpakkam, Ponneri	
3	25-09-'20 & 26-09-'20	Kannayya Naidu Thirumana Mandapam, Venpakkam, Ponneri	
4	05-10-'20, 06-10-'20, 15-10-'20 & 16-10-'20	Kannayya Naidu Thirumana Mandapam, Venpakkam, Ponneri	
5	10-11-'20, 19-11-'20 20-11-'20 & 30-11-'20	Kannayya Naidu Thirumana Mandapam, Venpakkam, Ponneri	
6	11-12-'20 & 12-12-'20	Kannayya Naidu Thirumana Mandapam, Venpakkam, Ponneri	
7	20-01-'21	Kannayya Naidu Thirumana Mandapam, Venpakkam, Ponneri	
8	02-02-'21 & 24-02-'21	Kannayya Naidu Thirumana Mandapam, Venpakkam, Ponneri	
9	20-07-'21	Kannayya Naidu Thirumana Mandapam, Venpakkam, Ponneri	
10	05-08-'21, 12-08-'21 & 31-08-'21	Kannayya Naidu Thirumana Mandapam, Venpakkam, Ponneri	
11	15-09-'21 & 22-09-'21	Kannayya Naidu Thirumana Mandapam, Venpakkam, Ponneri	
12	05-10-'21	Kannayya Naidu Thirumana Mandapam, Venpakkam, Ponneri	

RAP implementation

Resettlement Activities	Planned Total	Unit	Progress in Quantity			Progress in %		Expected Date of Completion	Responsible Organization
			During the Quarter	Till the last Quarter	Upto this Quarter	Till the last Quarter	Upto this Quarter		
Preparation of RAP									
Employment of Consultants	45	Man Months (Key Personnel)	0	45	45	100 %	100 %	Completed	AGEES & CRADLE Jv.
Implementation of Census Survey (Including Socioeconomic Survey)	1769	Land Parcels	8	1523	1531	86.09 %	86.55 %	Additional Land to be acquired	
Finalization of PAP's List	1769	No. of Land parcels	8	1523	1531	86.09 %	86.55 %	Additional Land to be acquired	LARRU & LARRIC
Progress of Compensation payment	1778	No. of land parcels + 09 CPR's	8	1532	1540	86.16 %	86.61 %	Additional Land to be acquired	LARRU & LARRIC
Village 1 (Kattupalli)	3	No. of land parcels	0	3	3	100 %	100 %	Acquired	DE(HW), TVR
Kattupalli (Block-II)	49	No. of land parcels	0	0	0	0	0	June 2023-Additional land	LARRU & LARRIC
Village 2 (Voyalur)	89	No. of land parcels	0	89	89	100 %	100 %	Acquired	DE(HW), TVR
Voyalur (Block-II)	5	No. of land parcels	0	0	0	0	0	June 2023-Additional land	LARRU & LARRIC
Village 3 (Neidhavoyal)	347	No. of land parcels	0	347	347	100 %	100 %	Acquired	DE(HW), TVR /LARRU

Resettlement Activities	Planned Total	Unit	Progress in Quantity			Progress in %		Expected Date of Completion	Responsible Organization
			During the Quarter	Till the last Quarter	Upto this Quarter	Till the last Quarter	Upto this Quarter		
Neidhavoyal-I (Block-V)	1	No. of land parcels	1	0	1	0	100 %	Acquired	LARRU & LARRIC
Neidhavoyal I&II (Block-VI)	3	No. of land parcels	2	0	2	0	66.66 %	June 2023-Additional land	LARRU & LARRIC
Neidhavoyal I&II (Block-VII)	60	No. of land parcels	0	0	0	0	0	June 2023-Additional land	LARRU & LARRIC
Village 4 (Kalpakkam)	104	No. of land parcels	0	104	104	100 %	100 %	Acquired	DE(HW), TVR
Kalpakkam (Block-II)	3	No. of land parcels	3	0	3	0	100 %	Acquired	LARRU & LARRIC
Kalpakkam (Block-III)	23	No. of land parcels	0	0	0	0	0	June 2023-Additional land	LARRU & LARRIC
Village 5 (Naloor)	197	No. of land parcels	0	197	197	100 %	100 %	Acquired	DE(HW), TVR
Nalur-II (Block-II)	12	No. of land parcels	0	0	0	0	0	June 2023-Additional land	LARRU & LARRIC
Nalur-I (Block-II)	2	No. of land parcels	1	0	1	0	50 %	June 2023-Additional land	LARRU & LARRIC
Village 6 (Anuppampattu)	112	No. of land parcels	0	112	112	100 %	100 %	Acquired	DE(HW), TVR
Anuppampattu-II (Block-II)	5	No. of land parcels	0	0	0	0	0	June 2023-Additional land	LARRU & LARRIC
Anuppampattu-II (Block-III)	37	No. of land parcels	0	0	0	0	0	June 2023-Additional land	LARRU & LARRIC
Village 7 (Vannipakkam)	92	No. of land parcels	0	92	92	100%	100 %	Acquired	DE(HW), TVR

Resettlement Activities	Planned Total	Unit	Progress in Quantity			Progress in %		Expected Date of Completion	Responsible Organization
			During the Quarter	Till the last Quarter	Upto this Quarter	Till the last Quarter	Upto this Quarter		
Vannipakkam (Block-II)	12	No. of land parcels	0	0	0	0	0	June 2023- Additional land	LARRU & LARRIC
Village 8 (Amoor)	104	No. of land parcels	0	104	104	100%	100 %	Acquired	DE(HW), TVR
Amoor (Block-II)	15	No. of land parcels	0	0	0	0	0	June 2023- Additional land	LARRU & LARRIC
Village 9 (Thatchur)	130	No. of land parcels	0	130	130	100%	100 %	Acquired	DE(HW), TVR
Thatchur-II (Block-II)	20	No. of land parcels	0	0	0	0	0	June 2023- Additional land	LARRU & LARRIC
Village 10 (Jaganathapuram)	84	No. of land parcels	0	84	84	100%	100 %	Acquired	DE(HW), TVR
Jagannathapuram-II (Block-III)	3	No. of land parcels	0	0	0	0	0	June 2023- Additional land	LARRU & LARRIC
Jaganathapuram-I (Block-IV)	10	No. of land parcels	0	0	0	0	0	June 2023- Additional land	LARRU & LARRIC
Village 11 (Panjetti)	44	No. of land parcels	0	44	44	100%	100%	Acquired	DE(HW), TVR
Village 12 (Kollatti)	72	No. of land parcels	0	72	72	100%	100%	Acquired	DE(HW), TVR
Village 13 (Nandiampakkam)	39	No. of land parcels	0	39	39	100%	100%	Acquired	DE(HW), TVR
Village 14 (Minjur)	93	No. of land parcels	0	93	93	100%	100%	Acquired	DE(HW), TVR
Minjur-I (Block-II)	1	No. of land parcels	1	0	1	0	100 %	Acquired	DE(HW), TVR

Resettlement Activities	Planned Total	Unit	Progress in Quantity			Progress in %		Expected Date of Completion	Responsible Organization
			During the Quarter	Till the last Quarter	Upto this Quarter	Till the last Quarter	Upto this Quarter		
Progress of land Acquisition (All Villages)									
Village 1 (Kattupalli)	0.27.42	Ha Are Sqm	0	0.27.42	0.27.42	100 %	100 %	Land Acquired	
Kattupalli (Block-II)	7.28.24	Ha Are Sqm	0	0	0	0	0	June 2023	Private Negotiation Proposal Under process
Village 2 (Voyalur)	14.14.94	Ha Are Sqm	0	14.14.94	14.14.94	100 %	100 %	Land Acquired	
Voyalur (Block-II)	0.44.10	Ha Are Sqm	0	0	0	0	0	June 2023	Final Award passed on 10.03.2023
Village 3 (Neidhavoyal I & II)	21.18.62	Ha Are Sqm	0	21.24.02	21.24.02	100 %	100 %	Land Acquired	
(Neidhavoyal Block IV)	2.07.16	Ha Are Sqm	0	2.07.16	2.07.16	100 %	100 %	Land Acquired	
Neidhavoyal-I & II (Block-VI)	0.16.20	Ha Are Sqm	0.16.20	0	0.16.20	0	100 %	Land Acquired	DE(HW), TVR
Neidhavoyal-I & II (Block-VII)	1.88.24	Ha Are Sqm	0	0	0	0	0	June 2023	Valuation Proposal under process
(Neidhavoyal Block III)	0.67.31	Ha Are Sqm	0	0.67.31	0.67.31	100 %	100 %	Land Acquired	
Neidhavoyal-I (Block-V)-Additional Land	0.02.00	Ha Are Sqm	0.02.00	0	0.02.00	0	100 %	Land Acquired	DE(HW), TVR
Village 4 (Kalpakkam)	3.96.41	Ha Are Sqm	0	3.98.41	3.98.41	100 %	100 %	Land Acquired	
Kalpakkam (Block-II)	0.03.40	Ha Are Sqm	0.03.40	0	0.03.40	0	100 %	Land Acquired	DE(HW), TVR
Kalpakkam (Block-III)	0.42.95	Ha Are Sqm	0	0	0	0	0	June 2023	Valuation Proposal under process

Resettlement Activities	Planned Total	Unit	Progress in Quantity			Progress in %		Expected Date of Completion	Responsible Organization
			During the Quarter	Till the last Quarter	Upto this Quarter	Till the last Quarter	Upto this Quarter		
Village 5 (Nallur I & II)	22.54.24	Ha Are Sqm	0	22.54.24	22.54.24	100 %	100 %	Land Acquired	
Naloor (Block - II)	2.36.14		0	2.36.14	2.36.14	100 %	100 %	Land Acquired	
Nalur-I (Block-III)	0.02.10	Ha Are Sqm	0.02.10	0	0.02.10	0	100 %	Land Acquired	DE(HW), TVR
Nalur-II (Block-II)	0.38.42	Ha Are Sqm	0	0	0	0	0	June 2023	Valuation Proposal under process
Village 6 (Anuppampattu)	14.79.82	Ha Are Sqm	0	14.79.82	14.79.82	100 %	100 %	Land Acquired	-
Anuppampattu-II (Block-II)	0.06.11	Ha Are Sqm	0	0	0	0	0	June 2023	Private Negotiation Proposal Under process
Anuppampattu-II (Block-III)	2.54.12	Ha Are Sqm	0	0	0	0	0	June 2023	Valuation Proposal under process
Village 7 (Vannipakkam)	17.26.48	Ha Are Sqm	0	17.26.48	17.26.48	100 %	100 %	Land Acquired	-
Vannipakkam (Block-II)	0.19.00	Ha Are Sqm	0	0	0	0	0	June 2023	Final Award passed on 10.03.2023
Village 8 (Amoor)	19.05.04	Ha Are Sqm	0	19.05.04	19.05.04	100 %	100 %	Land Acquired	
Amoor (Block-II)	0.62.68	Ha Are Sqm	0	0	0	0	0	June 2023	Final Award passed on 31.03.2023
Village 9 (Thatchur-1)	6.92.89	Ha Are Sqm	0	6.92.89	6.92.89	100 %	100 %	Land Acquired	
Village 9 (Thatchur-2)	10.33.66	Ha Are Sqm	0	10.33.66	10.33.66	100 %	100 %	Land Acquired	
Thatchur-II (Block-II)	0.48.82	Ha Are Sqm	0	0	0	0	0	June 2023	Award Enquiry conducted on 27.03.2023. Draft Award under

Resettlement Activities	Planned Total	Unit	Progress in Quantity			Progress in %		Expected Date of Completion	Responsible Organization
			During the Quarter	Till the last Quarter	Upto this Quarter	Till the last Quarter	Upto this Quarter		
									proposal
Village 10 (Jaganathapuram II)	9.55.95	Ha Are Sqm	0	9.55.95	9.55.95	100 %	100 %	Land Acquired	
(Jaganathapuram I)	3.08.11	Ha Are Sqm	0	3.08.11	3.08.11	100 %	100 %	Land Acquired	
(Jaganathapuram II) & Block II	2.68.20	Ha Are Sqm	0	2.68.20	2.68.20	100 %	100 %	Land Acquired	
Jegannathapuram-II (Block-III)	0.05.99	Ha Are Sqm	0	0	0	0	0	June 2023	Award Enquiry conducted on 27.03.2023. Draft Award under proposal
Jegannathapuram-I (Block-IV)	0.75.78	Ha Are Sqm	0	0	0	0	0	June 2023	Valuation Proposal under process
Village 11 (Panjetti)	2.03.02	Ha Are Sqm	0	2.03.02	2.03.02	100 %	100 %	Land Acquired	
(Panjetti Block II)	4.94.99	Ha Are Sqm	0	4.94.99	4.94.99	100 %	100 %	Land Acquired	
Village 12 (Kollatti)	2.56.64	Ha Are Sqm	0	2.56.64	2.56.64	100 %	100 %	Land Acquired	
Village 13 (Nandiampakkam)	0.72.65	Ha Are Sqm	0	0.72.65	0.72.65	100 %	100 %	Land Acquired	
Village 14 (Minjur)	5.43.86	Ha Are Sqm	0	5.43.86	5.43.86	100 %	100 %	Land Acquired	
Minjur-I (Block-II)- Additional Land	0.01.96	Ha Are Sqm	0.01.96	0	0.01.96	0	100 %	Land Acquired	DE(HW), TVR
*District Level Private Negotiation Committee (DLPNC) conducted.									
Progress of Asset (Primary buildings - including Squatters) Replacement (All Villages)	54	Nos							

Resettlement Activities	Planned Total	Unit	Progress in Quantity			Progress in %		Expected Date of Completion	Responsible Organization
			During the Quarter	Till the last Quarter	Upto this Quarter	Till the last Quarter	Upto this Quarter		
Village 1 (Minjur)	21	Nos	0	21	21	100%	100%		LARRU & LARRIC
Village 2 (Nallur)	5	Nos	0	5	5	100%	100%		
Village 3 (Vannibakkam)	1	Nos	0	1	1	100%	100%		
Village 4 (Thatchur)	1	Nos	0	1	1	100%	100%		
Village 5 (Jaganathapuram)	5	Nos	0	5	5	100%	100%		
Village 6 (Kollatti)	4	Nos	0	4	4	100%	100%		
Village 7 (Neithavoyal)	2	Nos	0	2	2	100%	100%		
Village 8 (Panjetty)	15	Nos	0	15	15	100%	100%		
Progress of Relocation of people including tenants (All Villages)	83	Nos	0	0	0	0 %	0 %	June 2023	
Village 1 (Minjur)	48	Nos	0	0	0	0 %	0 %	June 2023	
Village 2 (Nalur)	2	Nos	2	0	2	0 %	100 %		LARRU & LARRIC
Village 3 (Vannipakkam)	1	Nos	0	0	0	0 %	0 %	June 2023	
Village 4 (Thatchur)	1	Nos	0	0	0	0 %	0 %	June 2023	
Village 5 (Jaganathapuram -II)	4	Nos	0	0	0	0 %	0 %	June 2023	
Village 6 (Kollatti)	4	Nos	0	0	0	0 %	0 %	June 2023	
Village 7 (Neithavoyal)	2	Nos	2	0	2	0 %	100 %		

Resettlement Activities	Planned Total	Unit	Progress in Quantity			Progress in %		Expected Date of Completion	Responsible Organization
			During the Quarter	Till the last Quarter	Upto this Quarter	Till the last Quarter	Upto this Quarter		
Village 8 (Panjetty)	21	Nos	0	0	0	0 %	0 %	June 2023	

LARRU : Land Acquisition, Resettlement and Rehabilitation Unit

LARRIC : Land Acquisition Resettlement and Rehabilitation Implementation Consultant

Implementation status of livelihood recovery support

Implementation	Contents	Results
Nil		

Grievance from PAP's

Number of Complaints	Detail	Correspondence and Results
No grievance has been registered		

Other Points of Attention (free Writing)

Due to 1 st and 2 nd wave Covid-19 pandemic, the R & R works and Land acquisition works were affected.
--

Monitoring Formats for Physical Progress

No	Monitoring Indicators for Physical Progress	Implementation Targets	Revised Target	Progress this Quarter	Cumulative Progress	% against Target
1	Land acquisition (ha) from Govt. sources	71.85.63	70.95.55	0	70.95.55	100 %
2	Wet land acquired (ha) from private owners	94.98.84	101.83.00	0	97.10.42	95.36 %
3	Dry land acquired (ha) from private owners	12.39.13	80.40.65	0	70.25.54	87.38 %

No	Monitoring Indicators for Physical Progress	Implementation Targets	Revised Target	Progress this Quarter	Cumulative Progress	% against Target
4	Urban land (including homestead) acquired (ha) from private owners	57.94.00	8.73.15	0	8.73.15	100 %
5	No. of PAH's paid compensation for acquisition of private landed properties	771	1,290	20	1,203	93.62 %
6	Areas of pucca structures acquired (sqm) from private owners	11158.76	14988.36	0	14988.36	100 %
7	No. of PAHs paid compensation for acquisition of private pucca properties	43	38	0	38	100 %
8	Areas of semi pucca structures acquired (sq' m) from private owners	0	0	0	0	0
9	No. of PAHs paid compensation for acquisition of private semi pucca properties	0	0	0	0	0
10	Areas of kutcha structures acquired (sqm) from private owners	20080.89	8009.39	0	8009.39	100 %
11	No. of PAHs paid compensation for acquisition of private kutcha properties	51	51	0	51	100 %
12	Other assets (wells) acquired (No) from private owners	12	12	0	12	100 %
13	No. of PAHs paid compensation for acquisition of other private assets. (wells)	12	12	0	12	100 %
14	No. of PAH's provided with assistance (additional 25 %) for severance of land	To be estimated	0	0	0	0
15	No. of PAH's opted for alternative houses	30	0	0	0	0
16	No. of PAH's opted for alternative shops	0	0	0	0	0
17	No. of PAH's provided with land purchase grant at 25% of the compensation received to buy alternative agriculture land	Not Applicable	0	0	0	0
18	No. of PAH's provided with shifting allowance	41	74	60	14	100 %
19	No. of PAH's provided with rental allowance	27	38	34	4	100 %

No	Monitoring Indicators for Physical Progress	Implementation Targets	Revised Target	Progress this Quarter	Cumulative Progress	% against Target
20	No. of PAH's provided with subsistence allowance for 6 months	35	0	0	0	0
21	No. of PAH's provided with subsistence allowance for 3 months	0	97	90	97	100 %
22	No. of vulnerable squatter PAH's provided with alternative built houses	0	0	0	0	0
23	No. of vulnerable squatter PAH's provided with alternative built shops	0	0	0	0	0
24	No. of PAH's provided with employment generation asset grant (from PAHs losing shops)	0	0	0	0	0
25	No. of PAP's provided with livelihoods training assistance (2 adults from each PAH losing shops)	15	15	0	0	0
26	No. of PAPs provided with self-employment training (2 adults from each vulnerable squatter PAHs)	0	0	0	0	0
27	No. of PAPs provided with self-employment training and assisting for purchase of employment generation asset	0	0	0	0	0
28	No. of Man-days of employment under contractors (Male, Female) <ul style="list-style-type: none"> • Male PAP (Applied/Hired) • Female PAP (Applied/Hired) (as per RAP) 	0	0	0	0	0
29	No. of Community properties reestablished	9	9	0	0	0
30	No. of SDU staff in position	0	0	0	0	0
31	No. of SDU staff trained in R & R activities	0	0	0	0	0
32	No. of implementing NGO staff in position	6	6	0	0	0
33	No. of implementing NGO staff trained in R&R activities	6	6	0	0	0

Monitoring Indicators for Financial Progress

No	Monitoring Indicators for Financial Progress	Implementation Target (Rs. Million)	Revised Implementation Target	Progress This Quarter	Cumulative Progress	% against Revised Implementation Target
1	Compensation (including solatium) paid for wet land acquired from private owners including assistance towards registration charges and taxes	2967	2343.45	75.18	2104.95	89.82 %
2	Compensation (including solatium) paid for dry land acquired from private owners including assistance towards registration charges and taxes	1094	2189.75	37.79	2015.05	92.02 %
3	Compensation (including solatium) paid for urban land (including homestead) acquired from private owners including assistance towards registration charges and taxes	169	643.01	122	576	89.58 %
4	Compensation paid for severance of land (additional 25% of the above compensation paid)	1410	238.39	0	238.39	100%
5	Compensation paid for loss of perennial crops	0	0	0	0	0
6	Compensation paid for loss of non - perennial crops	4	85.44	0	85.44	100 %
7	Compensation paid for acquiring pucca structures from private owners	351.5	160.93	0	160.93	100 %
8	Compensation paid for acquiring semi pucca structures from private owners	0	0	0	0	0
9	Compensation paid for acquiring kutchha structures from private owners	27.11	17.72	0	17.72	100 %
10	Compensation paid for acquiring other assets (wells) from private owners	6.78	1.10	0	1.10	100 %
11	Expenditure on providing shifting allowances	1.81	3.12	2.38	3.12	100 %

No	Monitoring Indicators for Financial Progress	Implementation Target (Rs. Million)	Revised Implementation Target	Progress This Quarter	Cumulative Progress	% against Revised Implementation Target
12	Expenditure on providing rental allowances	0.61	1.17	1.05	1.17	100 %
13	Expenditure on providing subsistence allowances (for 6 months)	35	0	0	0	0
14	Expenditure on providing subsistence allowances (for 3 months)	2.13	1.87	1.69	1.87	100 %
15	Expenditure on providing self-employment training assistance (2 adults from each PAH losing shops)	0.20	0.20	0	0	0
16	Expenditure on providing self-employment training assistance (2 adults from each vulnerable squatter PAH losing shops)	0	0	0	0	0
17	Expenditure on providing self-employment training and purchase of employment generation asset assistance (to all employees losing employment due to this project)	0	0	0	0	0
18	Expenditure providing alternatives-built houses to vulnerable squatter PAHs	0	0	0	0	0
19	Expenditure on providing alternatives-built shops to vulnerable squatter PAHs	0	0	0	0	0
20	Expenditure on preparing resettlement sites ready with infrastructure facilities	To be Estimated	To be Estimated	0	0	0
21	Expenditure on reestablishing community properties/cultural properties	To be Estimated	To be Estimated	0	0	0
22	Expenditure of staffing of PIT (salary)	0	0	0	0	0
23	Expenditure on providing training to PIT staff in R&R activities	0	0	0	0	0
24	Expenditure on engaging implementation NGOs	10	10	5.5	5.5	55 %

No	Monitoring Indicators for Financial Progress	Implementation Target (Rs. Million)	Revised Implementation Target	Progress This Quarter	Cumulative Progress	% against Revised Implementation Target
	(LARRIC)					
25	Expenditure on engaging Impact Evaluation Agency / NGO / Academic Institution	0	0	0	0	0
26	Expenditure on continued public consultation	0	0	0	0	0
27	Expenditure on strengthening Social Development unit	0	0	0	0	0
28	R&R cost for maintenance corridors (1.5% of the treatment cost of Rs.3 million)	0	0	0	0	0
29	Expenditure on unquantified impacts (10% of total R&R cost)	0	0	0	0	0

Attachment Env 07: Organizational Frameworks for RAP Implementation

The resettlement and rehabilitation activities is going to be implemented by the Project Implementation Team (PIT) which will be set up within TNRDC. Institutional arrangement and responsibilities in the implementation of RAP is summarised in following Table.

The coordination of the institutions is visualised in following Figure. The outsourced Resettlement & Rehabilitation Specialist and his/her staff, about 4 persons team, will be the focal point that connects all institutions. Most of the implementation works will be the responsibility of the RAP Implementation NGO/Consulting firm, also outsourced by PIT.

HMPD	Secretary	<ul style="list-style-type: none"> Over all in charge of all final HMPD decisions on the Project Coordinate with other state level agencies.
HMPD	Chief Engineer	<ul style="list-style-type: none"> Oversee periodical progress of the Project Implement the decisions made by the Secretary
TNRDC	Chief General Manager	<ul style="list-style-type: none"> Responsible for implementation of the Project as the Managing Associate assigned by HMPD.

TNRDC Implementat ion Team, PIT	Project Director		<ul style="list-style-type: none"> • Overall in-charge of all project activities. • Oversee the progress of land acquisition and R&R activities • Participate as Member Secretary in the State Level Grievance Redressal Committee. • Participate in the State Level Committee to facilities and acquisition. • Contracting the NGOs for implementation of RAP and the external Impact Evaluation Agency. • Periodic appraisal of the progress and reporting to JICA and the Government in the form of monthly reports. • Authorized to take decision in financial matters
	Social Development Unit	Assistant Project Director	<ul style="list-style-type: none"> • Coordinate implementation of R&R activities with HMPD and field staff. • Approve the entitlements / micro plans prepared by the NGOs for implementing RAP. • Monitor the progress of R&R implementation and report to Project Head
	Land Unit	Land Acquisition Officer (Deputy Collector) (Assigned by District Revenue Office)	<ul style="list-style-type: none"> • Co-ordinate the Land Acquisition process with Tahsildars at the field • Prepare guidelines and procedures to be adopted for the Land Acquisition • Interact with the District Revenue Officers and other Stakeholders for quickening the Land Acquisition process. • Monitor and report the progress of Land Entry upon permission to the Assistant Project Head. • Participate in the District Level Grievances and Project Level Grievances Committees.
		Structure Valuation Officer (Assistant Divisional Engineer, HMPD)	<ul style="list-style-type: none"> • Coordinate preparation of valuation of structures • Assist in preparation of estimates of structure and community assets compensated • Participate in the Grievance Committees.
	Assistant Engineer		<ul style="list-style-type: none"> • Assist the R&R Specialist in the implementation of R&R • Assist the R&R Specialist in the report preparation for the social development unit Land Acquisition Unit
	Database Management System Analyst		<ul style="list-style-type: none"> • Responsible for maintaining the Data base of the PAPs and PAHs • Responsible for maintaining the Data base of Overall Physical and Financial Progress • Maintain records of Grievance Redressal Committee.
HMPD Site Unit			<ul style="list-style-type: none"> • Coordinate with PIT, outsourced parties, Villages, Districts and PAHs.

Outsourced	Resettlement and Rehabilitation Specialist/Social Manager	<ul style="list-style-type: none"> • Participate the State Level/District Level and Project Level Grievances Committees. • Co-ordinate implementation of R&R activities with corporate and field staff • Review the work in finalization of Resettlement site development. • Prepare Terms of Reference (ToR) for any studies to be carried out by external agency. • Prepare monthly progress report for the social development unit and land acquisition units.
	Implementation NGOs/Consulting Firms	<ul style="list-style-type: none"> • Coordinate with the Tahsildars and Extension Officers at the field to implement the RAP activities.
		<ul style="list-style-type: none"> • Verification and identification of PAHs, issue of identify cards, counselling, dissemination of project policies, documents etc., • Prepare micro-plans per household for implementation of R&R • Generate awareness about the livelihood restoration activities and help the PAHs to make informed choices. • Consulting PAHs on accepting to resettlement areas. • Identify training needs of PAHs for income generation activities and ensure that they are adequately supported • Put forth the grievances of the PAHs, to the field HMPD units and the GRC. • Assist the Social Development Unit, PIT, in disbursement of cheque. • Periodical R&R implementation report should be submitted to the Social Development Unit.
	External Impact Evaluation Agency	<ul style="list-style-type: none"> • Work out indicators to evaluate the R&R implementation • Track the resettled and effected population in order to assess the restoration of income and standards of living. • To provide suggestions and inputs in the form of remedial measures to the PIT in implementing the RAP.
	Database Management System Specialist	<ul style="list-style-type: none"> • Responsible for developing DBMS for R&R • Developing formats for Data Entry • Developing formats of output data for periodical reports • Training of the R&R staffs at the PIT in using the database.
Tiruvallur District	District Collector	<ul style="list-style-type: none"> • Give Final approval of the Target PAHs/PAPs eligible for compensations and assistances • Plan the relocation of common property resources and implement the relocation.
	District Revenue Office/Officer (DRO)	<ul style="list-style-type: none"> • Determine the boundary of land to be acquired

		<ul style="list-style-type: none"> • Verify the land and assets to be acquired and their owner
		<ul style="list-style-type: none"> • District level Tahsildars will coordinate with HMPD and village level Tahsildars to implement the RAP activities. • Select the potential site for collective resettlement sites when necessary
	District Rural Development Agency DRDA	<ul style="list-style-type: none"> • Responsible for preparation of collective resettlement sites with HMPD budget, when necessary.
Revenue Village	Village Administration Office	<ul style="list-style-type: none"> • Village level Tahsildars will coordinate with HMPD and District level Tahsildars to implement the RAP activities. • Assist DRO in Determining the boundary of land to be acquired and verifying the land and assets to be acquired and their owner • Assist PIT/NGO and HMPD in verifying the spatters and encroachers eligible for compensations and assistances.

Source: DPR SIA Table 10.1

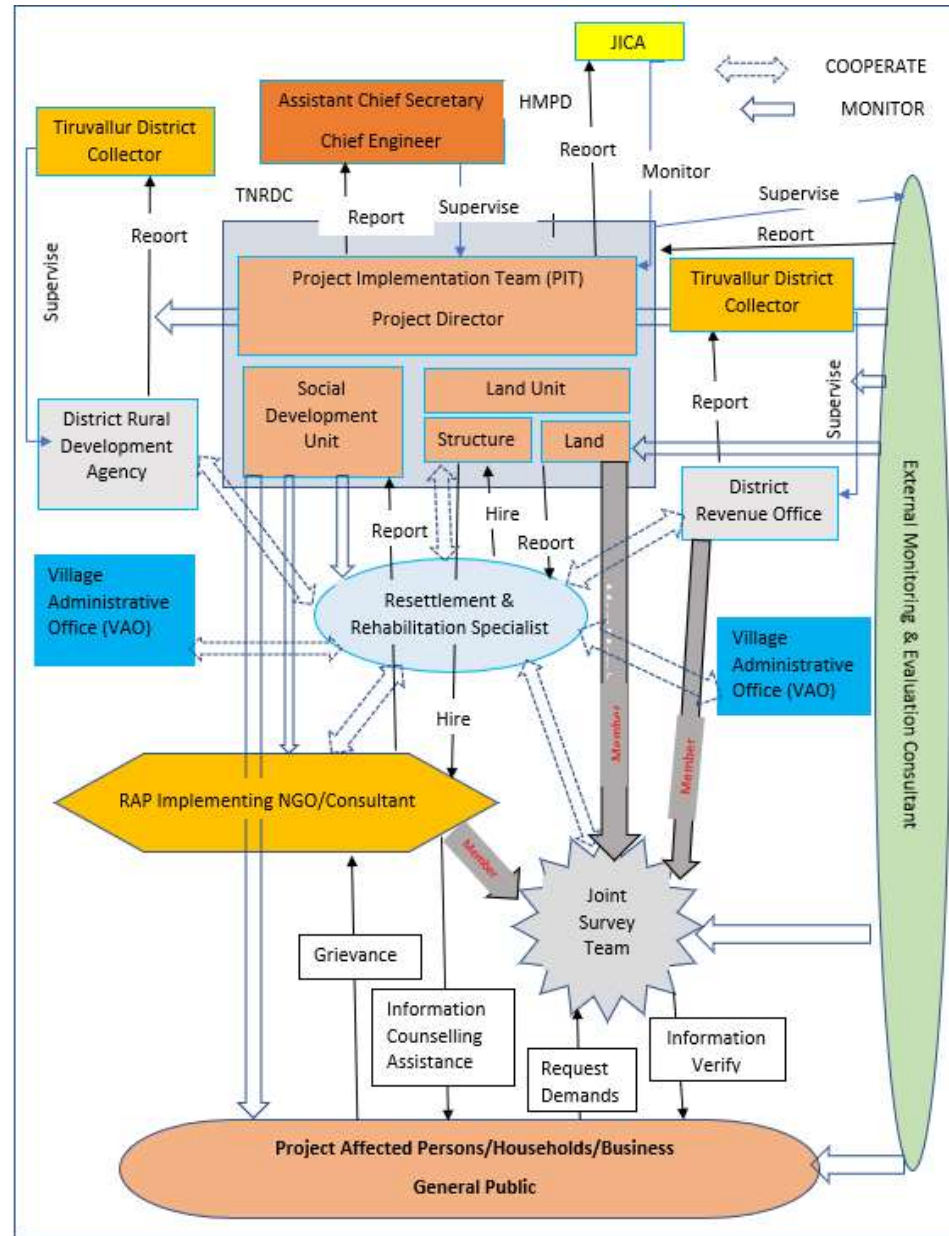


Figure Institutional Arrangement in the Implementation of RAP

Attachment Env 08: Cost and Budget for RAP Implementation

Below Table shows the management and operation cost for RAP implementation, together with the total cost for RAP implementation. Ten Percent estimated total cost is added as contingency.

Management and Operation Cost and Total Cost of RAP Implementation

SI No	Description	Amount (Rs)	Amount (Rs Lakhs)
A	R & R Cost		
1	Structure Cost	9,36,46,963	936.5
2	Resettlement & Rehabilitation Cost	4,64,13,700	464.1
3	CPR Relocation Cost	4,40,00,000	440.1
	Total R&R Cost	18,40,60,663	1840.6
B	Management & Operation Cost		
1	NGO Appointment	35,00,000	35.0
2	Monitoring & Evaluation	35,00,000	35.0
3	Appointment of Social and Environmental Expert PMC	70,00,000	70.0
4	Appointment of Social and Environmental Associates PMC	50,00,000	50.0
5	Training Program	20,00,000	20.0
6	IEC Materials and Awareness	25,00,000	25.0
7	Road Safety	25,00,000	25.0
8	Focus Group Discussion/Consultation	25,00,000	25.0
9	ID Card to PAH's	12,50,000	12.5
10	ID Card - Vendor for Biometric card	17,50,000	17.5
11	Women development / Gender issues development program	25,00,000	25.0
12	Documentation	32,00,000	32.0
	Sub Total for Institutional Arrangements	3,72,00,000	372
	Total R&R Cost for Sub Project	22,12,60,663	2,213
	10 % Contingency	2,21,26,066	22
	Total R&R Budget	24,33,86,729	2,435

Source: DPR Table 9.12