

Social Safeguards Due Diligence Report

Document Stage: Draft for consultation
Project No: 37378-014
January 2020

SRI: Jaffna and Kilinochchi Water Supply Project (Additional Financing) – Supply and Laying of Distribution Network in Jaffna City Area

Prepared by the Jaffna and Kilinochchi Water Supply Project of the National Water Supply and Drainage Board for the Asian Development Bank.

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Jaffna Kilinochchi Water Supply Project

Additional Financing Loan Number: L: 3603, L: 3604 – SRI

Due Diligence Report for the Supply and Laying of Distribution Network in Jaffna City Area

Package No: PACKAGE NO - PEIC/JKWSSP/DISTRIBUTION NETWORK/2017/01

Implementing Agency
National Water Supply and Drainage Board

Executing Agency
Ministry of Urban Development, Water Supply and Housing Facilities

Abbreviations

ADB	-	Asian Development Bank
DBO	-	Design Build Operation
DDR	-	Due Diligence Report
DN	-	Distribution Network
DSD	-	Divisional Secretary Division
ET	-	Elevated Tower
GIS	-	Geographical Information System
GND	-	Grama Niladhari Division
GOSL	-	Government of Sri Lanka
JKWSP	-	Jaffna Kilinochchi Water Supply Project
JMC	-	Jaffna Municipal Council
NWSDB	-	National Water Supply and Drainage Board
O&M	-	Operation and Maintenance
PMCIU	-	Project Management Coordination and Implementation Unit
RoW	-	Right of Way
RDA	-	Road Development Authority
RDD	-	Road Development Department
RP	-	Resettlement Plan
SWRO	-	Sea Water Reverse osmosis

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DUE DILIGENCE REPORT FOR SUPPLY AND LAYING OF WATER DISTRIBUTION NETWORKS IN JAFFNA CITY AREA

PACKAGE NO - PEIC/JKWSSP/DISTRIBUTION NETWORK/2017/01

1.0 BACKGROUND

1. The people in Jaffna peninsula depend entirely upon the underground aquifers for their water supply in the absence of surface water sources. Unfortunately, the aquifers are highly contaminated due to over extraction of water for agricultural irrigation using powerful pumps, applying high doses of chemicals and pesticides for cash crops, improperly constructed latrines in the urban areas and the latest discharging the burnt oil from the power generation plant in the ground without considering the environment safety and mismanaging the water bodies in the Peninsula.
2. Due to bacteriological and chemical contamination and sea water intrusion, a portion of the underground water in peninsula is not suitable for drinking purposes. This condition represents a public health hazard. It was observed that the people in Jaffna are potentially at high risk of waterborne and water related diseases. Therefore, the government of Sri Lanka decided to provide quality safe drinking water for the people in Jaffna and also to enhance the quantity of water available in water scarce areas like the Islands.
3. The Asian Development Bank (ADB) implemented a Conflict Affected Area Rehabilitation Project (CAARP) in 2003. As a result of this, there was a recommendation to review the water resources in the Jaffna peninsula and the adjacent district. A team of consultants conducted a feasibility study to provide safe and reliable water supply and sanitation for the Jaffna and Kilinochchi districts. The Jaffna-Kilinochchi Water Supply and Sanitation Project was the outcome of this study in 2005 and an agreement was signed by the Farmer Organization to share the water from Iranaimadu tank to Jaffna district, including few GN divisions in the northern part of the Kilinochchi district. The deteriorating of security situation in the Northern Sri Lanka precluded further development of the project until the civil war came to an end in May 2009.
4. After the war came to an end, the interest in implementing the project regained importance and the documents were reviewed. The agreement for financial assistance between the Government of Sri Lanka, The Asian Development Bank and the Co-financer Agence

Française Development (AFD) was signed and the consultants were recruited. The total cost of the project (PAM 2010) was estimated to be US \$ 164.0 million, funded by ADB, AFD and GOSL (ADB: 90 million USD, AFD: 48 million USD and GOSL: 26.04 million USD) and target date of completion is scheduled as 2017.

5. The original design of the Jaffna Kilinochchi Water Supply and Sanitation Project was to draw water from Iranaimadu reservoir – as a source of surface water. Based on that, the following were the major components in original scope.
6. The major components of the project as per original proposal were as follows;
 - A. Improvement of Iranaimadu Head works including high lift irrigation and rehabilitation of the downstream. (Beneficiaries 55,000)
 - B. Water Supply (Beneficiaries 300,000)
 - Construction of intake at Iranaimadu, Construction of Treatment Plant at Palai (27,000m³/day), Supply and laying of treated transmission mains (44 km), Supply and laying of distribution mains (284 km), Construction of 17 nos of Elevated towers and 4 nos of Underground reservoirs.
 - C. Sanitation and Sewerage (Beneficiaries 80,000)
 - Construct the Sewerage network for densely populated Jaffna Municipal Area and Construction of Sewerage treatment plant at Kallundai
 - D. Strengthening Jaffna Water Resource Management Committee and Capacity Development
7. The farmers benefiting from the tank have raised concerns on the water adequacy in the tank to share with drinking water needs in the Jaffna peninsula. However, considering the concerns of farmers, in 2010, the water abstraction rate was reduced from 50,000 to 27,000 cubic meters per day. Nevertheless, some farmer organizations continued their protest against abstraction of water from Iranaimadu tank for the drinking water project. Severe drought experienced in Kilinochchi during early part of 2014 resulted extremely low water level in the Iranaimadu tank, aggravating farmers concerns on water sharing.
8. Considering the urgent need of water supply facilities to Jaffna Peninsula and its suburbs, A mutual agreement has been reached with ADB to carry out a Rapid Assessment on the feasibility of alternative water sources for JKWSSP mainly focusing on desalination of sea water. As a result of the rapid assessment study and their recommendations with regard to desalination option will be suitable and changed the water source from surface water to seawater.

9. This project developed to install desalination of sea water through the development of seawater reverse osmosis (SWRO) plant to produce about 24,000 cubic meters (m³) of fresh water per day. Taking into account the proposed restructuring, the project meets the eligibility criteria for additional financing. 120 Mn USD approved by Asian Development Bank for the development of water supply infrastructure facilities.
10. Based on that, the components of the project were restructured. The major components of the project as per revised scope are as follows;

Output 1: Water supply infrastructure and service in Jaffna Peninsula improved.

11. The overall project will (i) install a desalination plant of 24,000 m³ per day capacity; (ii) install 700 kilometers¹ of water mains and distribution pipes; (iii) install 60,000 metered new water connections; and (iv) operate and maintain the desalination plant for 5 years. The desalination plant will be designed, constructed, operated and maintained by a single contractor using DBO and performance-based contract. The operation and maintenance (O&M) period under the DBO contract will be 7 years, out of which 5 years will be covered by the project and the remaining 2-3 year period will be financed by the government. The overall project will support the monitoring and independent review of the desalination plant services and the DBO contractor performance. The DBO contractor will ensure (i) proper bulk water metering; (ii) adequate water pressure at the turning point; and (iii) supplied water complies with national quality standards for drinking water. The NWSDB will manage the water transfer and distribution systems, and ensure timely payments of fixed and performance-linked variable fees to the DBO contractor. The DBO contractor will train the NWSDB staff in operating the assets during the O&M period and will turn over the desalination plant to NWSDB at the end of 7 years. The NWSDB has committed to the continuity of O&M of desalination plant beyond the contract period.

Output 2: Headworks at Iranaimadu Tank improved.

12. The overall project will support enhancement and strengthening of headworks at the Iranaimadu Tank to increase its storage capacity to 148 million m³. Iranaimadu Tank remains an important drinking water resource for Jaffna, especially when the demand for drinking water is expected to increase significantly in the future. This output is expected to be completed by end of 2017 under the current project, with the Ministry of Local Government and Provincial Council as executing agency, and will not be covered by the additional financing.

Output 3: Water resource management systems and capacity strengthened.

¹ As per the PAM 700 km of water mains and distribution pipes need to be installed. However, under project distribution only planned to lay nearly 673 km including all 5 distribution packages.

13. The overall project will support long-term water resource management and capacity building for NWSDB. This will include (i) developing a detailed action plan for groundwater and surface water monitoring and rehabilitation in Jaffna; (ii) conducting awareness campaigns on water sharing from Iranaimadu Tank; (iii) completing a water resources management plan for Iranaimadu Tank; and (iv) community development in Vadamarachchi village, where the desalination plant will be located.
14. The revised total cost of the restructured project (PAM 2017) was estimated to be US \$ 266 million, funded by ADB and GOSL (ADB: 210 million USD and GOSL: 56 million USD) and target date of completion is extended up to Dec 2023².
15. As per the revised schedule, Component 1 is the part of the project involving the provision of infrastructure, so this is the element that may cause involuntary resettlement impacts. This component included construction of Sea Water Desalination Plant, Treated Transmission mains and the distribution mains, elevated water tower. As per the present demand it was decided to install 24000m³/day SWRO plant in Thalaiyadi, Maruthankerny of Vadamarachchi East DS Division. A draft resettlement plan has been prepared for this component and will be updated based on final detailed design. Also the RP disclosed on Implementing Agency's website. Link are as follow
 ADB Website : <https://www.adb.org/projects/documents/sri-37378-014-rp>
 Water board Website:
http://www.waterboard.lk/web/index.php?option=com_content&view=article&id=71&Itemid=269&lang=en#the-environmental-impact-assessment-report-and-resettlement-plan-of-jkwssp

1.2 WATER SUPPLY INFRASTRUCTURE AND SERVICE IN JAFFNA PENINSULA IMPROVED

16. The overall benefit of the project will be improved health and human development in the urban and Pradeshiya Saba areas of Jaffna and Kilinochchi. The water supply and sanitation components of the project will respectively benefit an estimated 300,000 and 80,000 people in the Jaffna and Kilinochchi areas. However the sanitation project suspended from this project and cabinet approval obtained to implement separately.
17. Implementation of the Water Supply Component, there are different packages awarded and ongoing to achieve the targets. The elevated towers envisaged in the project has been broken into three packages namely ET 1, ET 2 and ET 3. These three packages are fully under original loan. ET 1 & 2 packages was awarded to Sierra Construction Company based in Colombo and the construction works are completed in 2018. ET 3 package was awarded to M/s. Squiremech Engineering and the construction works are ongoing in Karaveddy,

² Due to the restructured of the project, the project period extended up to Dec 2023 for the civil works.

Pommaiveli, Nainathivu, Analaithivu and Eluvaithivu and nearly 20 % of the works are completed. This package fully covering by the original loan.

18. Transmission Main Packages are fully covered by the Original Loan and totally 183.6 Km main pipe laying works are completed. The transmission laying awarded to JMC (India) Project and the CMEC – BPP – JV contractors and the laying from Puthukkadu Junction to Karainagar was laid and the packages fully completed.

19. Distribution networks were broken into five packages namely DN 1, DN 2, DN for Jaffna City area, and DN 3³ and oil polluted area distribution. The details of packages are as follow

Table 1 : Details of Distribution Networks

S. No	Package Name & No	Total Km	Present Status	Funding
1.	Supply and Laying of Water Distribution Networks in Kayts , Velanai and Mandaithivu PEIC/JKWSSP/NETWORK/2013/01	67 Km	Fully Completed	Original Loan (prepared separate DDR)
2.	Supply and Laying of Distribution Networks in Palai, Kodikamam, Meesalai, Poonakary, Puttur, Navatkuli, Karainagar, Punguduthivu, Vaddukkoddai, Kaddudai, Nallur zones, JMC transmission pipeline and construction of office/ store, quarters at Punguduthivu PEIC/JKWSSP/NETWORK/2014/02	248 Km	Partially Completed (57 Km of laying completed)	Both Loan (prepared separate DDR)
3.	Supply and Laying of Distribution Network in Jaffna City Area Package No: PACKAGE NO - PEIC/JKWSSP/DISTRIBUTION NETWORK/2017/01	283 Km	Contract in awarding stage	Additional Financing (this is the DDR)
4.	Supplying and Laying of water Distribution Networks in Nainathivu, Analaithivu and Eluvaithivu Islands PEIC/JKWSSP/Network/2019/01	25 Km	Bid Advertised	Original Loan (preparation of separate DDR in progress)
5.	Chunnakam Water Supply Scheme	50 Km	Procurement Stage	Additional Financing

³ DN 1- Fully funded under original loan , DN 2 – Funding by both loans , Jaffna City Distribution – Fully funded under Additional Loan and DN 3 – fully funded original loan

				(separate DDR to be prepared) (This package will be implement based on the savings available only in AF)
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20. Out of the five packages DN 1 was awarded under fully original loan and the contractor Square Mach who won the contract had completed the pipe laying work in Kayts, Velanai and Mandaithivu.
21. Distribution Network Package 2 covers the pipe lying works in Palai, Kodikamam, Meesalai, Poonakary, Puttur, Navatkuli, Karainagar, Punguduthivu, Vaddukkoddai, Kaddudai, Nallur zones, JMC transmission pipeline and construction of office/ store, quarters at Punguduthivu. This Contract was awarded to M/s. Sierra Construction Ltd and the 30 % of the laying works completed. This package partially covering by Additional Financing.
22. Distribution Network – 3 fully covering by original loan and covered the area in Nainathivu, Analaithivu and Eluvaithivu. Document advertised on 29th January 2020 and bid will be closed on 4th March 2020.
23. Distribution Network 4 is in the procurement Stage. Detailed design completed and this package additionally included in the coverage as the entire area polluted by oil contamination. Based on the saving available under additional financing, this package will be implement.
24. Supply and Laying of Distribution Network in Jaffna City area is the package originally planned to lay pipes for water supply and sewerage scheme. Due to the major scope change and the cancelled the sewerage scheme, this package only cover for water supply. Jaffna City existing water supply system is limited to hourly supply and quality issue also there. Three towers such as Old Park, Pommaiveli and the Nallur have been proposed to supply the water to Jaffna City area of which the locations have been identified by the NWSDB. The supply zone of each tower was decided taking into account the capacity of the towers, together with other technical and physical conditions and constraints.

25. This due diligence report consist the information and details of the package for supplying and laying of water distribution networks in Jaffna City area based on the final design submitted by consultant.

1.3 SUPPLY AND LAYING OF WATER DISTRIBUTION NETWORKS IN JAFFNA CITY AREA (OLD PARK, NALLUR, JMC TOWER (EXISTING) AND POMMAIVELI ZONES)

26. The above Package covers 4 distribution zones. These are Nallur, Old Park- 1, Old Park -2 and Pommaiveli distribution zones. Coverage area are as follows:
- Nallur zone is 5.696 Km²,
 - Old Park zone - 1 is 8.34 Km²,
 - Old Park zone - 2 is 0.86 Km² and
 - Pommaiveli zone is 4.41 Km².
27. Total 283.67 Km of length to be laid under this package. Nallur, Old Park -1, Old Park -2 and Pommaiveli zones consist altogether of 46 Grama Niladhari Divisions (refer Table 7). The hydraulic design covers all 46 Grama Niladhari Divisions. The supply zone of each water tower was determined based on already designed capacities of the towers together with the population to be serviced, distance to the tower, geographical levels and other relevant technical and physical conditions and constraints.
28. It is a usual practice of the NWSDB to set the design horizon for water supply facilities to 20 years from the time of detail design. Applying this concept, the design horizon for the network design is set to 2033, which is 20 years from the base year 2013.
29. A feasibility study was conducted in 2006. As numerous administrative, social and environmental changes have taken place in the project area after the end of the war (in 2009), and subsequent development have taking place, the feasibility study data is no longer reliable as a base for carrying out the detailed designs.
30. Hence, the population in the area for water supply was assessed, based on the following two methods, using 1.52% annual growth and migrant rate.
- Domestic population based on 2011 Census Department data.
 - Population based on a GIS building Survey, carried out by the Consultant based on the Survey Department, 2012 Building Data, accounting 4.5 persons per household and actual population for non-domestic buildings.

31. The actual population of non-domestic buildings was identified in a field survey. The population of these buildings and domestic population were tabulated into Geographical Information System (GIS) attribute tables.

32. The population computed using the two methods is presented in Table 2.

Table 2: Projected domestic population with 1.52% (annual growth and migrant rate)

Supply Zone	Domestic Population Predicted Based on 2011 Census Dept. Data				Domestic Population Predicted Based on updated GIS Building Data			
	2013	2018	2028	2033	2013	2018	2028	2033
Nallur	17,865	19,264	22,401	24,156	25,285	27,266	31,706	34,190
Old Park-1	29,129	31,411	36,525	39,387	37,542	40,483	47,075	50,763
Old Park-2	11,482	12,382	14,398	15,526	11,825	12,751	14,828	15,989
Pommaiveli	24,100	25,988	30,220	32,587	27,662	29,764	34,288	36,859
Total	82,576	89,045	103,544	111,656	102,314	110,264	127,897	137,801

Table 3: Projected Households with 1.52% (annual growth and migrant rate according to GIS Data

Zone	2013	2033
Nallur	5619	7598
Old Park -1	8342	11,281
Old Park -2	2628	3553
Pommaiveli	6147	8312
Total	22,736	30,744

33. As it can be seen from the above table, there is a relatively big difference between the populations predicted using the two methods. This is due to the fact that some buildings, which were vacated during the war time, are not occupied yet. After a careful study by the Consultant, NWSDB Project Management and regional O&M staff of these resultant figures, it was decided to design the distribution system based on the population predicted from the updated GIS building data, on the assumption that the buildings would be occupied rapidly due to the ongoing infrastructure rehabilitation of the area. Newly built houses were added to the original GIS building data. The population survey and the transect walks carried out by the consultant team during the period of 2014 – 2016 and the design was

finalized. However due to the delay in project implementation and the awarding the contract, there are some changes in the roads such as newly build up structures and the road rehabilitation done. As per the original design it was decided to lay the pipes at the shoulder of the road and the design is as same and there is no changes. Please refer the attached sample road map for laying as **Annex – 1**.

34. Water demand for the network design was agreed with the NWSDB Project staff and O&M staff to be 100 lpcd for the domestic demand. The water demand of other institutions was tabulated as 230 lpcd per hospital bed, 30 lpcd per school student/teacher and 25 lpcd per office person. The projected water demand based on this criteria is presented in Table 3. Also 15% none-revenue-water (NRW) is considered. At peak time, 544 m³/day fire flow is included.

Table 4: Projected Water Demand

Supply Zone	2033 Water Demand based on Census Department Data (m3/day)	2033 Water Demand based on Updated GIS Building Data (m3/day)
Nallur	3115	5246
Old Park-1	4756	10669
Old Park-2	1875	2322
Pommaiveli	4055	5714

35. A considerable discrepancy in total water demands exist between the two methodologies, especially in Old Park zone, as illustrated in Table 4 above. This is due to the low population count during 2011 census and the large number of new business ventures that has started during last few years. Abandoned houses, as a result of 30 years long civil war, is a common sight. At the field visits conducted the period in 2016, the consultant team noticed that people now are slowly moving into the abandoned houses and also that a considerable number of new houses are seen in the above mentioned areas. Also the markets, shops and the cultural buildings constructed in the period of 2016 – 2019.
36. Furthermore, new commercial ventures like hotels, offices, education institutes and financing institutes are rapidly increasing in Jaffna City. Jet wing Hotel, Cargill building, Jaffna Railway station, Indian Cultural Centre, Valampuri Hotel, and nearby hotels are examples.
37. With these developments, it should be expected that those abandoned houses will be re-occupied due to the restoration of peace in the areas. Likewise, should be anticipated the

effect of migration likely to occur, following the development of infrastructure in addition to water supply (Roads/Electricity/Railway/Health). Also new institutes are planned.

38. In order to satisfy these conditions, the distribution network model was created to accommodate water demand, based on updated GIS building data.

39. Table 5 presents the capacities of the water towers, which already has been designed and being constructed at present.

Table 5: Water tower details

Supply Zone	Water Tower Capacity (m3)	Water Tower Height (to the Outlet Pipe) (MSL)
Nallur	1200	27.61
Old Park- 1 & 2	1800	29.39
Pommaiveli	1800	27.00

40. The distribution networks were analyzed using Water Gems V8i (SELECT Series 6) modeling software. The model was built using the spatial data base developed with the ArcGIS 10.3 software. The total length of the distribution network connected to each water tower is shown in the table below.

Table 6: Distribution length⁴

Supply Zone	Length of distribution network (km)
Nallur	74
Old Park -1	113
Old Park -2	21.67
Pommaiveli	75
Total	283.67

41. The above distribution system was designed to cater for the peak demand of the distribution area using a peak factor of 1.5 for the daily average demand. Nearest-node method was used to assign the water demand in the model from the GIS shape file. T-REX command was used to assign the topo survey results to the respective nodes. The network was simulated for hourly demand fluctuation, using the demand pattern.

⁴ Total 283.67 km to be laid under this package.

42. Hazen – Williams Formula was used for calculating friction losses of pipes. PE pipes were used for Distribution network. The system was modelled with a C value of 130. Anticipating higher rise buildings will come to the JMC area within next 20 years, minimum residual pressure was maintained at 15 m H₂O at peak demand. Maximum Pressure at the system is below 32 m H₂O. A maximum velocity of 1.55 m/s is used.

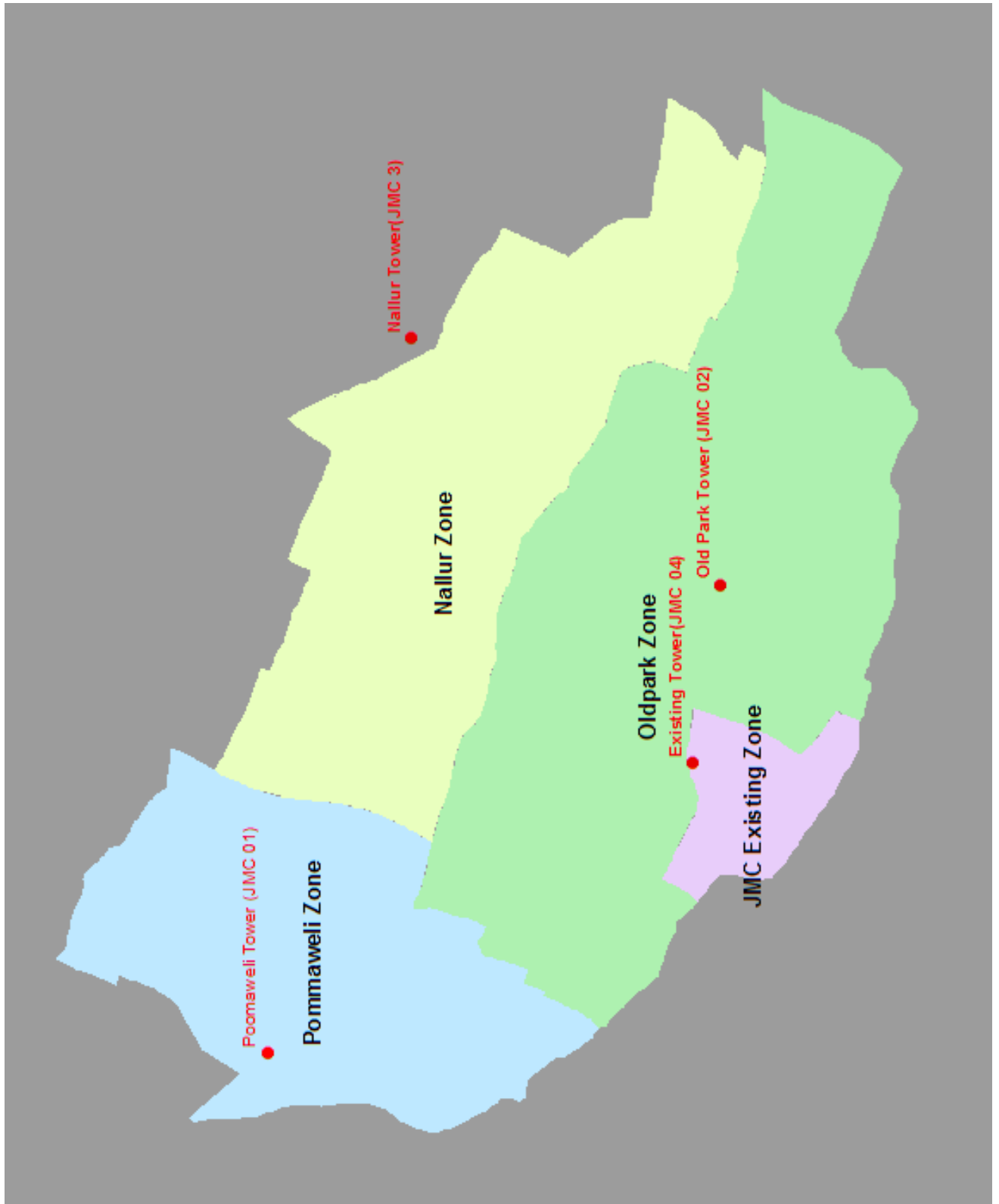
43. The model was optimized to fulfill the Design requirements.

Table 7: List of Grama Niladhari Divisions covered under this package

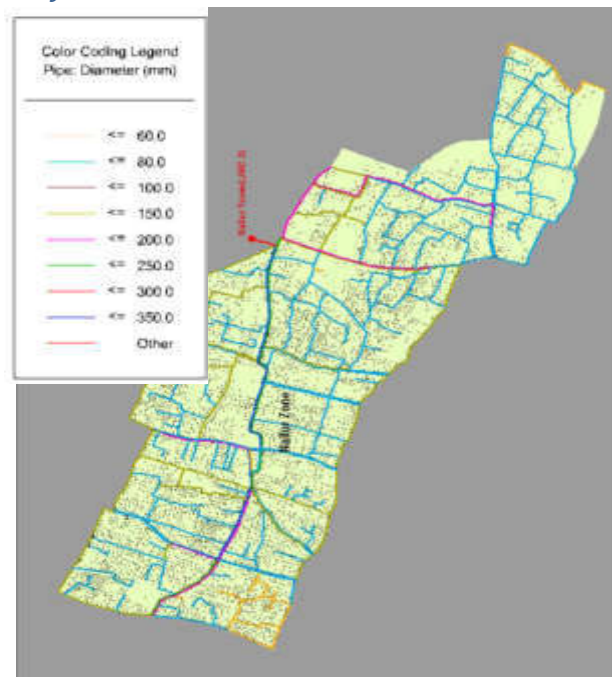
Distribution Zone	GND Divisions	GND ID	Service Tower
Nallur	Ariyalai North West Ariyalai Centre North Ariyalai Centre Ariyalai Centre South Kantharmadam North West Kantharmadam North East Kantharmadam South West Kantharmadam South East Nallur North Nallur Centre Nallur South	J/91 J/94 J/95 J/96 J/102 J/103 J/104 J/105 J/106 J/107 J/108	Nallur Tower
Old Park- 1	Nedunkulam Columbuthurai East Columbuthurai West Passaiyoor East Passaiyoor West Eachchamoddai Thirunagar Small Bazaar Jaffna Town West Jaffna Town East Chundikuli South Chundikuli North Maruthady Attiaddy Sirambiady Grand Bazaar Ariyalai West Ariyalai S. W. (East)	J/61 J/62 J/63 J/64 J/65 J/66 J/67 J/72 J/73 J/74 J/75 J/76 J/77 J/78 J/79 J/80 J/92 J/93	Old Park Tower

Old Park- 2	Reclamation East	J/68	Old Park Tower
	Reclamation West	J/69	
	Gurunagar East	J/70	
	Gurunagar West	J/71	
Pommaiveli	Fort	J/81	Pommaiveli Tower
	Vannarpannai	J/82	
	Koddady	J/83	
	Navanthurai	J/84	
	Navanthurai North	J/85	
	Moor Street South	J/86	
	Moor Street North	J/87	
	New Moor Street	J/88	
	Iyanar Kovilady	J/97	
	Vannarpannai N.W. (North)	J/98	
	Vannarpannai N.W. (West)	J/99	
	Vannarpannai N.W. (North)	J/100	
	Vannarpannai N.E. (South)	J/101	

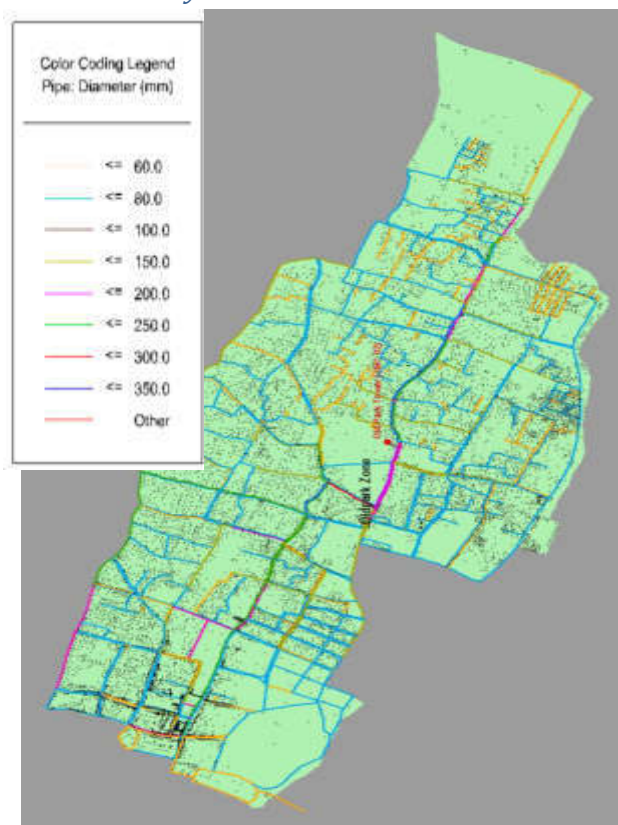
1.3.1 Key Map for Supplying and Laying of Distribution Network in Jaffna City Area



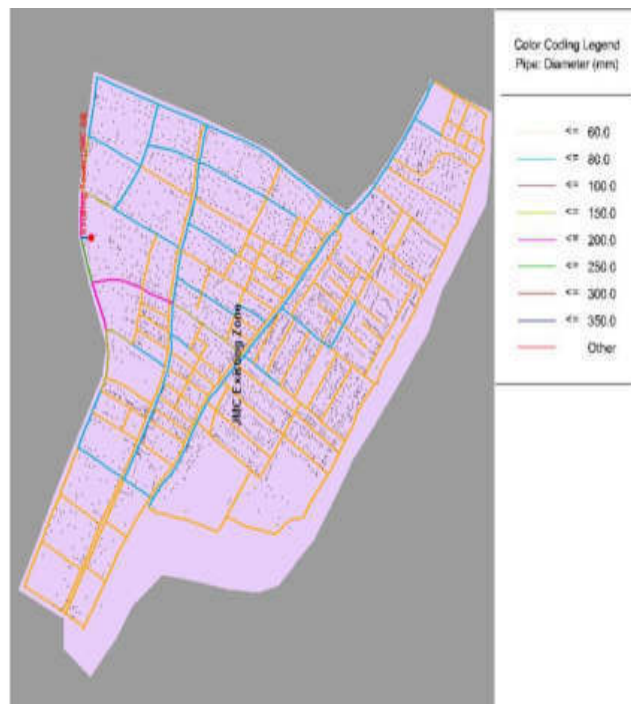
1.3.1.1 Nallur Zone Distribution Layout



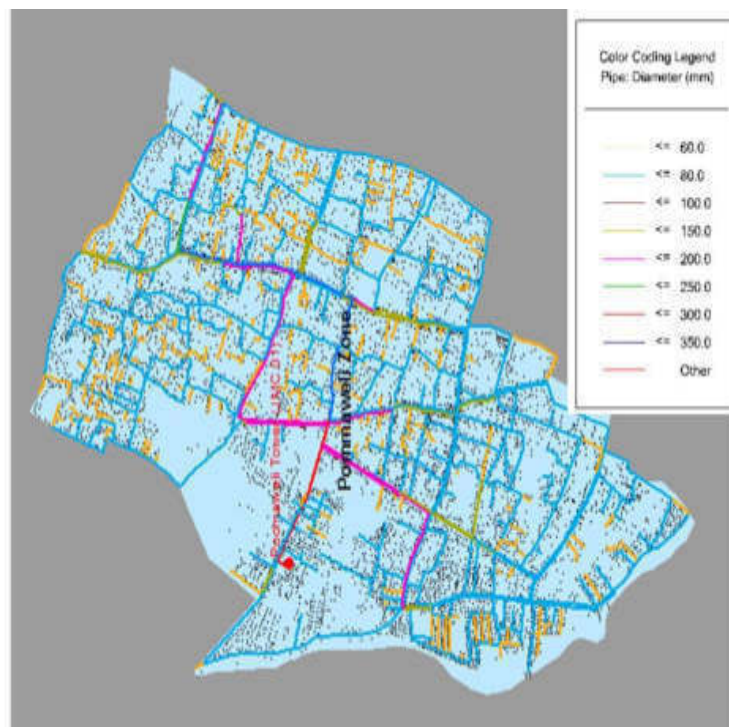
1.3.1.2 Old Park - 1 Zone Distribution Layout



1.3.1.3 Old Park - 2 Zone Distribution Layout



1.3.1.4 Pommaiveli Zone Distribution Layout



2.0: LEGAL AND POLICY FRAMEWORK

44. The legal and policy framework through which resettlement impacts are mitigated under the project and particularly for the subproject will follow the laws and regulations of Sri Lanka and ADB's SPS, 2009. The details of legal and policy provisions both in national laws and ADB's SPS statement are discussed in **Annex – 2**.

3.0: METHODOLOGY

45. The methodology applied in preparation of the DDR for this subproject is enumerated as follows:
- The safeguard specialist studied the scope of the subproject including the technical details of the project by reviewing the Detailed Design Report prepared for the subproject by his team and had discussions with the team leader, SPCU officers, and the relevant members of his team on the scope of works in the subproject.
 - After the desk study and internal discussions, the safeguard specialist made an initial field visit to ascertain the impacts due to resettlement and indigenous peoples.
 - This was followed by preparation of the screening formats for impacts of (i) resettlement; and (ii) indigenous people. During this screening, the subproject was categorized as “C” which required a detailed due diligence to confirm the findings of the initial observations.
 - The DDR preparation work commenced with the field visits and discussion with the relevant organizations and collecting information and/or records (if any) on land ownership and approvals by various organizations to undertake the subproject works. This was followed by a detailed public consultation to inform the public and/or stakeholders on the project components and to ascertain if there are any impacts of resettlement in the subproject execution.
 - This DDR was then prepared by assimilating the details of the detailed design report, findings of the field visits, and discussions with relevant government officials and information gathered during public consultation as per the requirements.

4.0: FIELD WORK – SURVEYS AND PUBLIC CONSULTATIONS

4.1: FIELD VISITS

46. Field visit was carried out and the resettlement screening and indigenous people screening was done by the resettlement specialist in 2016 hired under the consultancy contract. Since there were no impacts of resettlement and indigenous people, the study was continued for a due diligence with further field visits and public consultations.
47. During the field visit, it was informed by the residents and business people in the Jaffna city area about the installation of a water pipeline to provide new connections to the Jaffna area. The residents showed their excitement and welcomed the water supply project as they are suffering the existing water connection run by Jaffna Municipal Council. All of them expressed they have waited for so long to be connected to the NWSDB's pipe borne water supply. The PMCIU and the resettlement specialist of the PEIC, they informed to the residents that, they will be informed and oriented when the construction activities will begin.
48. Ownership of the lands and the potential issues related laying of distribution pipes was observed carefully and discussed with the authorities like Government Agent, Jaffna, Divisional secretary, Jaffna, Road Development Authority, Road Development Department, Urban Development Authority and the Jaffna Municipal Council. Since the distribution pipe laying will be laid in the reservation of the right of way (RoW) which belongs to Road Development Authority and Jaffna Municipal Council. Agreement will be signed between Road Development Authority and the NWSDB after the contract awarded for laying pipes on the road shoulder.

4.2: STAKEHOLDER / PUBLIC CONSULTATIONS

49. Several awareness meetings and stakeholders meeting were held during the design stage. Officers from Divisional Level and the district level were also consulted during the meetings. Addition to this, District Level Coordination Committee Meetings and Divisional Level Coordination Committee Meetings conducted and discussed about the pipe laying matter.
50. Additional consultations were scheduled in March-April 2020, however, these have been rescheduled to September 2020 due to the COVID-19 pandemic. Details regarding more recent consultations will be included in the next social monitoring reports. Focus group discussions and informal meetings had with residents in the period of 2014, 2015 & 2016 in each and every GN Divisions with the support of Divisional Secretary and Grama

Niladhari.⁵ Participants gave their feedback that the important of the pipe borne water supply and they informed that, they will support for the project activities as it is the public interest project.

51. Main topics discussed in the public consultations are listed as follow.

- Objectives of the water Supply Project and the project progress
- ADB's Safeguard Policy and the importance of the GRC/GRM
- Project Coverage area and the construction works
- Contactor's Details and the issues related to the construction activities
- Pipe laying location, diameter and the depth of laying
- Working hours of contractor and safety arrangements & Any other social issues

52. Prior to the pipe laying works Sociologist from PMCIU and the safety officer from contractor representative to be visited the each and every household and disseminate the project information and laying process. Working time of the contractor should be informed the community as well as the business people. Noise and dust control to be applied when working in the Jaffna City area.

5.0 EXPECTED RESETTLEMENT IMPACTS AND SOCIOECONOMIC INFORMATION

53. The project pipe laying activities will not require private land acquisition or physical and economic displacement (temporary or permanent) of people through impacts on related laying works. Mainly laying the distribution pipes are in the Jaffna Municipal Council area which includes the two divisional secretariat divisions such as Nallur and Jaffna. Also the land will be utilized for the laying belongs to Government. Therefore, there will be no any resettlement impacts or impacts on structure or livelihoods of the people. The resettlement screening and categorization form is annexed as **Annex 3**. Since the road belongs to state and the road shoulders are having enough spaces for laying and distribution pipes will be located in road ROWs, which can accommodate construction activities and should therefore not affect people, considering the road shoulders, population density and the vehicle traffic. However, the agreement will be signed with Road Authority if there any temporary or permanent damages will happen to the roads during the construction time and the rectification amount will be paid to road authority.

54. Further all the water distribution networks, the pipes lines have been planned to be laid along the road reservation. It is clearly evident that the pipe lines are shown along the

⁵ The meeting had with residents during the period in 2014, 2015& 2016 regarding the supply and laying distribution network in Jaffna City area and Sewerage pipe laying. However due to the project restructured and the delay of implementing Jaffna City Distribution package, again the PMCIU have to conduct the meetings in all GN Divisions prior to the contract award along with the household survey.

existing road network. Since the pipe line are laid along the road reservation there is no clearance of any land or cut of any trees. It is laid along already cleared area. Further there is no land issue or resettlement issues when the pipes are laid along the road reservation. There may be instances of damages caused to boundary walls when excavation is done along the road reservation as the Jaffna City area densely populated and some of the boundary walls are situated near to the road shoulder. In this type of cases, contractor will be responsible for the rectification works on the damages occurred for the boundary wall. Before damaging the boundary wall, contractor must get the written consent letter from the public that stating their consent on damaging the boundary wall and reconstructing within two weeks' time. Within the two weeks of time period, contractor must reconstruct the damaged walls under the provision of Third party damages which was clearly mentioned in the contract document. Resettlement Specialist/ Sociologist should closely monitor the reconstruction works.

55. This network is in the buildup urban area where you find drainages and boundary walls. It was decided to take photographs of the area before the commencement of excavation activity for pipe laying to visualize the existing situation of boundary walls and drainage. Any damage to private property during construction will either be reconstructed/restored to original condition by the contractor and the affected persons will be made fully aware of contractual provisions regarding such damage, avoid complaints. It will help the contractor to ensure, whether the damage is caused due to excavation or compaction or it was there earlier, when there is a claim for compensation of damage of boundary walls or drainage network. Further, this supply zone package is mainly in the urban and sub-urban area and the network may cross the roads in several points. In this case the project has planned and provided for road crossings in the some roads.
56. In some places they have to either cut the roads or use available technology to drill beneath the road and lay the pipe without cutting the roads. This technology seems to be very costly and the project has to decide on the cost effective way of laying the pipe lines. If cutting the road and paying compensation to the road authority is cheaper compared to the drilling technology, the project can choose this method and advice the contractor to follow it and pay the road authorities the compensation required to repair the road. For the road crossings and laying pipes standard agreement to be signed between NWSDB, RDD, RDA and Jaffna Municipal Council. Sample Agreement is attached as **Annex – 4**.
57. The distribution of network of around 283 km is proposed along public road within the RoW and no road closures are expected during construction. The work of the contractor will be scheduled in such a manner that the contractor will under undertake the construction of one side of the road first and on completion of the same, start work on the other side to minimize impact on traffic. Generally Jaffna City area densely populated and the vehicle

traffic is comparatively high as business centers, hospitals, hotels, supermarkets are situated in the town area. Since this town area, the traffic on the roads is also expectable and there would be alternative arrangements to this. The pipe laying and traffic routing will be studied in advance and if required the contractor will be asked to provide signals at appropriate locations. The contractor will also ensure access to shops and residences using simple wooden and/or concrete walkways where required and minimize the excavation to a length of 500 m to minimize disruption. Construction contracts will include above provisions.

58. Consultations with the business community and the residents show no anticipated losses in business due to laying of water pipes. However, it was noted that, the access to the shops will be disturbed by the laying works and the contractor must be arrange the alternative access to the shops. In addition to this, the excavation of roads and the backfilling will be done by contractor immediately as the residents are government officials and the workers. Prior notice will be provided to the businesspeople and the residents before the commencement of works for each roads and a traffic management plan will be followed by contractor as recommended by the Initial Environmental Examination. Summary of Public consultations is attached as **Annex – 5**. Photographs of the meeting is attached as **Annex – 6**.
59. No objection certificates from Jaffna Municipal Council and the Department Road Development, and Road development Authority will be obtained and will be annexed in the semiannual monitoring reports. In all, there will be no land requirements and all pipes will be laid in the RoW.
60. There will be around 3000 house connections to be given under this package and can be done without any major disturbance to access of the houses. The subproject construction will not cause any adverse social or environmental impacts⁶.
61. Another major social issue expected in this supply zone is shifting of telephone and electric post currently situated in the road reservation. Unplanned shifting will cause disruption to the services and the community living in the area will suffer without the services or incur extra cost to obtain these services in an alternative way. This situation arises due to implementation of the pipe laying works and it is the duty of the project to minimize the cost. The implementation of the activities must be planned well a head and coordinated with the relevant service providers and prior information should be given to the public regarding the day and time of disruption of services so that the public will be ready with alternative arrangements. Further, the pipe laying may cause traffic jam or diversion of traffic and

⁶ The household survey to provide the house connection is in progress. Once completed the survey exact no of connection details will be updated.

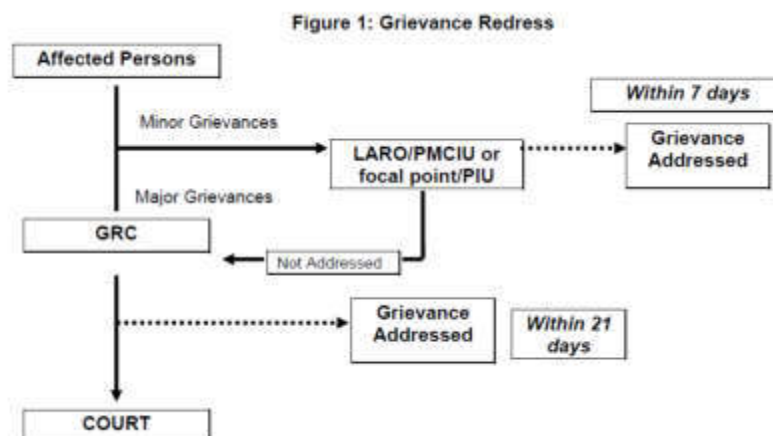
necessary coordination with the traffic police and proper sign boards revealing diversion and other precautionary measures should be taken during implementation.

62. The issue of indigenous population is not there in the supply zone. No socio environmental issues are anticipated at the planning stage of this distribution network component of the project. If any issues related to land, resettlement or compensation payment arises at the implementation period of the component the grievances redress committee set up at the divisional secretary level will look after issues and resolve them amicably.

6.0 GRIEVANCES REDRESS MECHANISM (GRM)

63. The GRM will be made accessible to affected persons and capable of responding to a wide scope of issues so that affected persons can approach it easily with their diverse concerns including trace-related grievances, land acquisition and compensation-related grievances, construction-related grievances, and resettlement sites-related grievances. The institutional arrangements established to ensure effective management of the design, construction and subsequent operation of the project infrastructure, include special provisions to enable affected persons to bring to the attention of the project authorities any dissatisfaction they may experience and to ensure that this is dealt with appropriately. The mechanism is shown in Figure 1.

Figure 1: Grievance Redress



GRC = Grievance Redress Committee, LARO = Land Acquisition and Resettlement Officer, PIU = project implementation unit; PMCIU = project management, coordination and implementation unit.

64. Grievances of affected persons will first be brought to the attention of the Sociologist / Land Acquisition and Resettlement Officer (LARO) in the project management, coordination and implementation unit (PMCIU) or the focal point in the PIU. The sociologist/ LARO is responsible for the following grievance related activities:

- Assist the affected persons in land acquisition and compensation processes including their relocation to new sites (if relevant); (ii) maintain good relations with affected persons, responding to their concerns, and providing assistance to them as required;
- Identify all resettlement impacts before, during, and after construction; and taking steps to mitigate them;
- Participate in Grievance Redress Committees (GRCs) as an ex-officio member;
- Function as lowest level receiver of grievances along with the PIU focal point;
- Record, register, and sort grievances;
- Conduct an initial assessment of grievances;
- Refer grievances to appropriate units or persons;
- Notify complainants and other affected parties of eligibility, the resolution process, and the outcomes;
- Track, monitor, document, and evaluate of all grievances; and Submit annual summary report to PMCIU project director and to ADB.

7.0. CONCLUSION

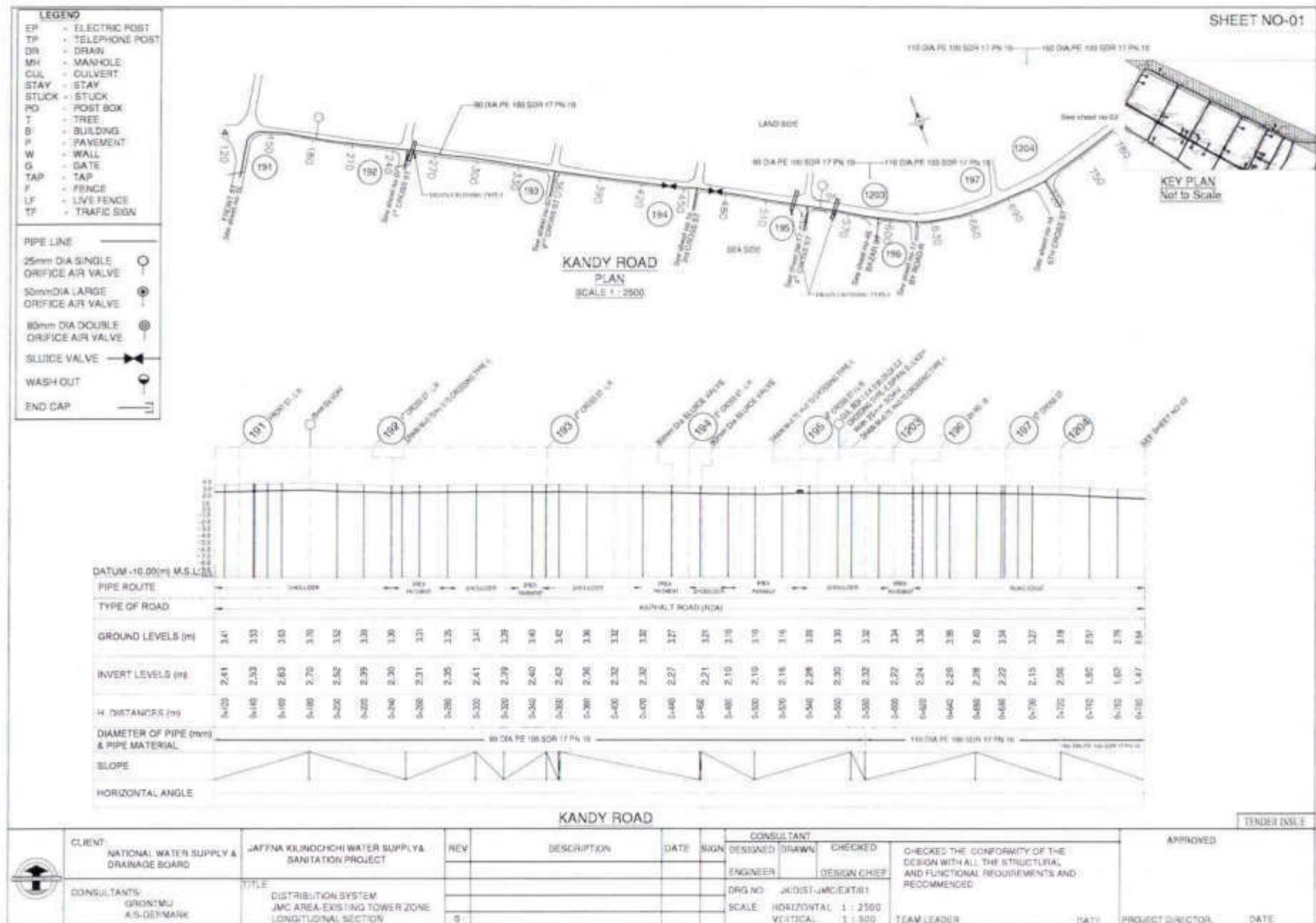
65. Based on the field visit, public consultations and the government records, there are no impacts due to resettlement and indigenous people due to this pipe laying works. The proposed project will have a great positive impact over the lives of the Jaffna Peninsula people and relief the people to avoid to be in line to collect the water and save the time. Also, they can enjoy with healthy and happy life by consuming pure safe drinking water.








66. This project has no impacts on private lands and livelihood of people. It doesn't require dislocating any private and public structures. Therefore compensation cost is not required

for the implementation of this subproject. However, contractor keep the provision to rectify the minor damages during the laying. It doesn't require dislocating any private and public structures and hence falls under the 'C' category of ADB guidelines and this DDR is prepared. This project will also primarily render direct social and health benefits and secondarily render economic benefits to the people of the area.

67. The executing agency and the implementing agency have overall responsibility for the project and has established a project management, coordination, and implementation unit (PMCIU) in Jaffna to manage construction activities. The Sociologist/ LARO in the PMCIU coordinates land acquisition and resettlement activities, assisted by a resettlement specialist provided by the design consultant. Damages or temporary disturbances to the public will be rectified immediately.
68. Resettlement activities will be monitored to enable NWSDB to assess progress and identify problem areas to prevent recurrence on this and other projects. The PMCIU will conduct internal monitoring, tracking numbers of people affected, assistance provided, community resources affected, restoration undertaken, compensation paid, etc. The PMCIU will maintain affected person databases, keep affected person census records, verify asset and socioeconomic data used in assessing resettlement plan implementation impacts, etc. Reports will be submitted to NWSDB every 6 months throughout construction and these will be forwarded to ADB, who will monitor overall progress and advise the executing agency accordingly.
69. PMCIU will continue the public consultations and the stakeholders meeting regularly at divisional level as well as district level. In addition to this arrange the GRC meetings every month once awarded the contract in order to minimize the grievances and public concerns. Also the contractor must participate in all meetings to ensure the public interest and their support.

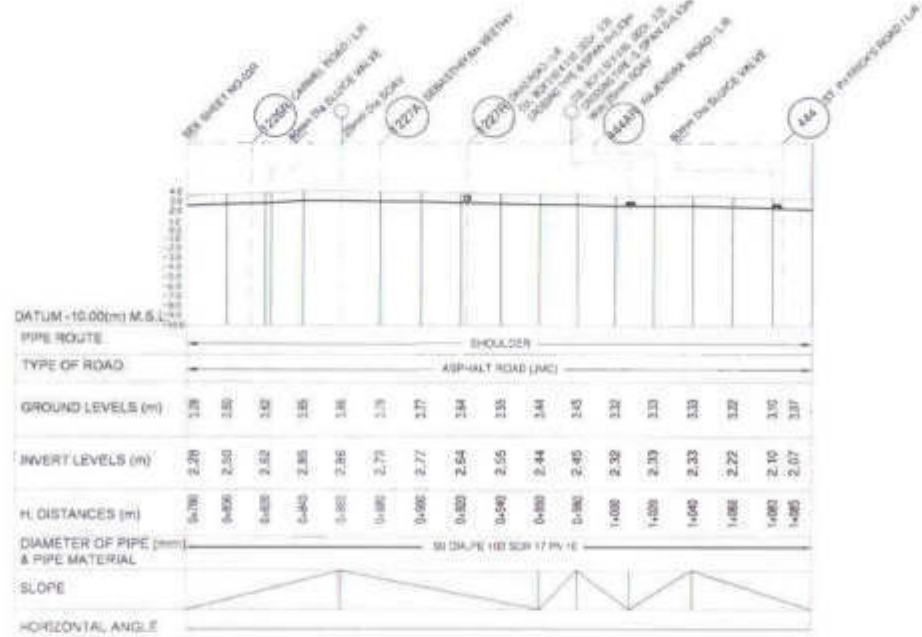
Annexes



- | | |
|-----------------------------------|-----------------------------------------------------------------------------------|
| PIPE LINE |  |
| 25mm DIA SINGLE ORIFICE AIR VALVE |  |
| 50mm DIA LARGE ORIFICE AIR VALVE |  |
| 80mm DIA DOUBLE ORIFICE AIR VALVE |  |
| SILICE VALVE |  |
| WASH OUT |  |
| END CAP |  |



BANKSHALL STREET
PLAN
SCALE 1:2500




BANKSHALL STREET -(Sea side)

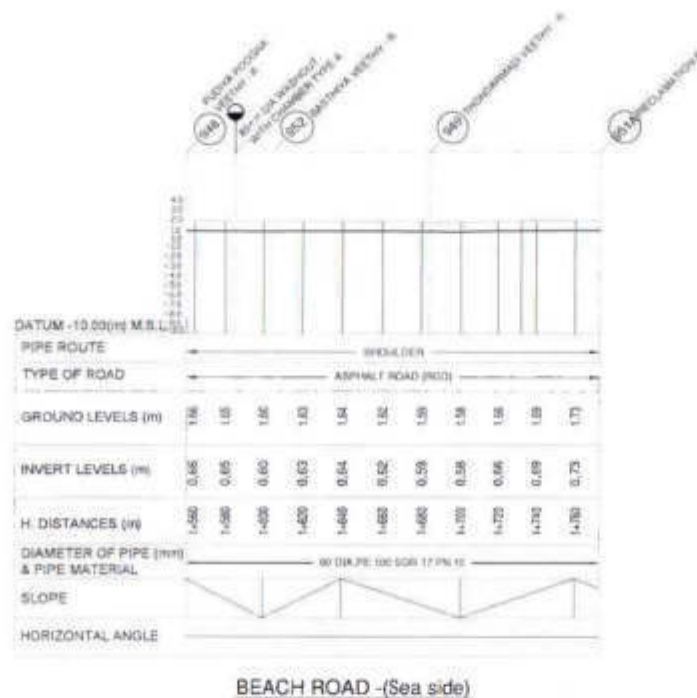
SHEET NO-09











KEY PLAN
Not to Scale

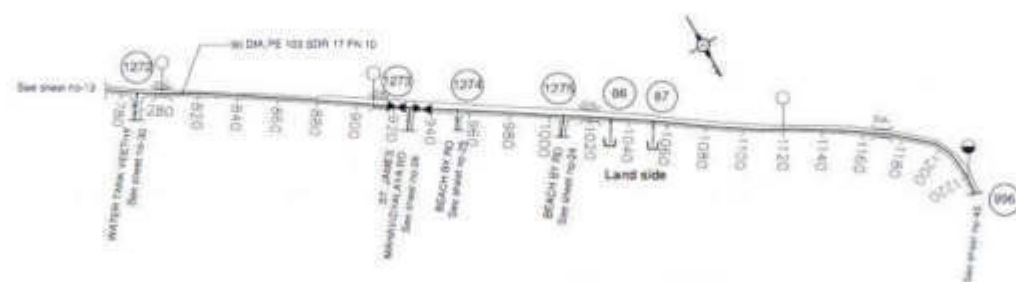
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PIPE LINE	
25mm DIA SINGLE ORIFICE AIR VALVE	
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SLUICE VALVE	
WASH OUT	
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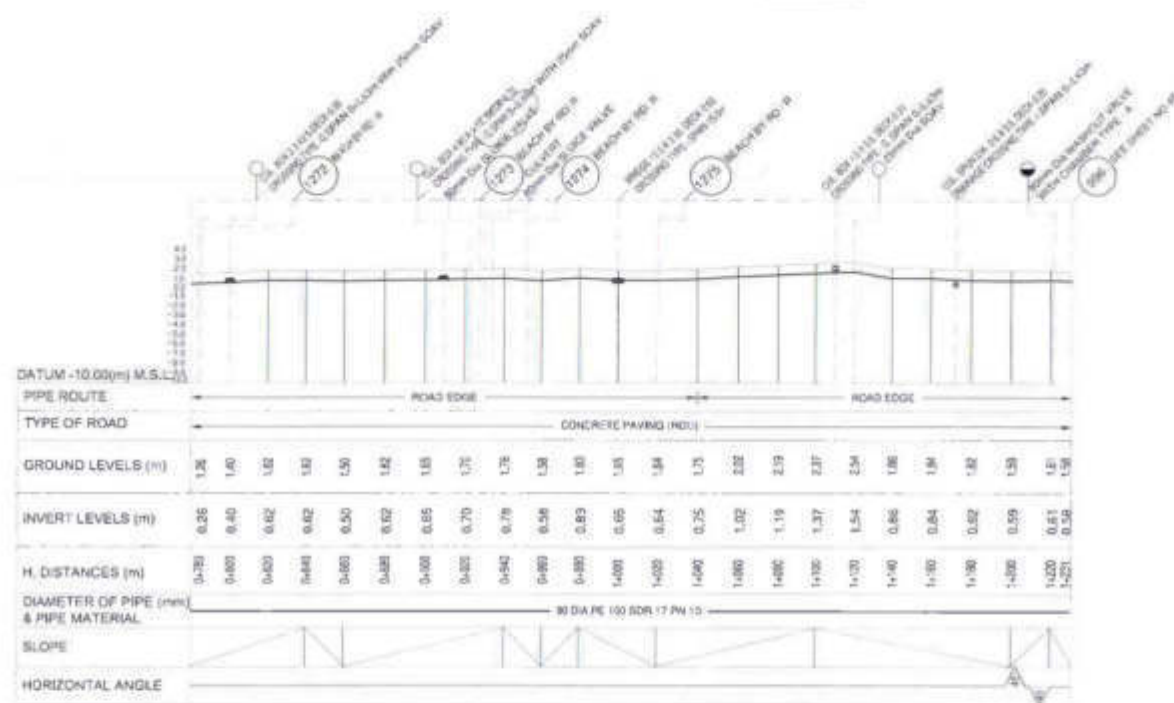


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80mm DIA DOUBLE ORIFICE AIR VALVE	
SLUICE VALVE	
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END CAP	



RECLAMATION ROAD
PLAN
SCALE 1" = 2500'



RECLAMATION ROAD

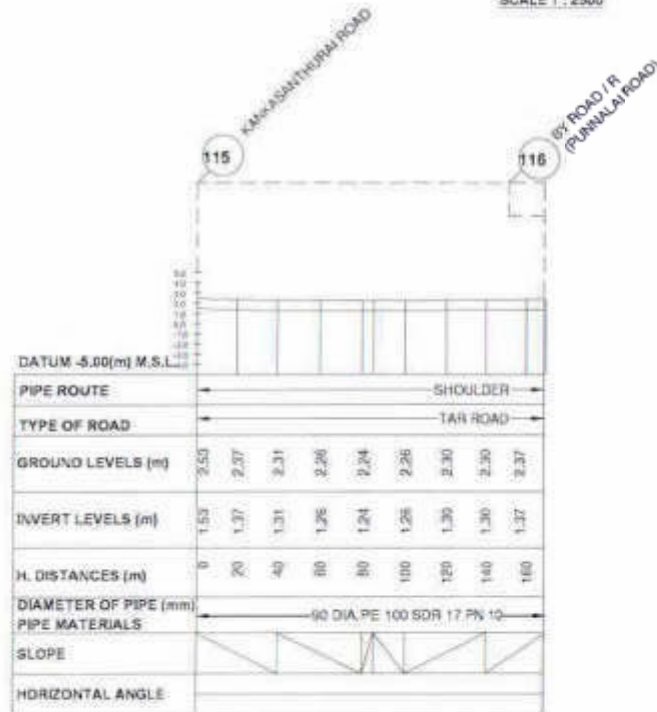
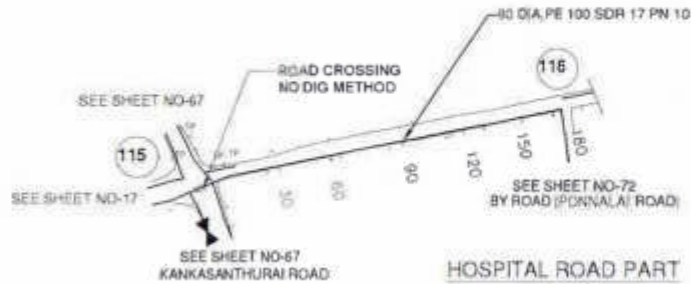
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LEGEND

EP	- ELECTRIC POST
TP	- TELEPHONE POST
DR	- DRAIN
MH	- MANHOLE
CUL	- CULVERT
STAY	- STAY
STUCK	- STUCK
PO	- POST BOX
T	- TREE
B	- BUILDING
P	- PAVEMENT
W	- WALL
G	- GATE
TAP	- TAP
F	- FENCE
LF	- LIVE FENCE
TF	- TRAFFIC SIGN

PIPE LINE

25mm DIA SINGLE ORIFICE AIR VALVE	
50mm DIA LARGE ORIFICE AIR VALVE	
80mm DIA DOUBLE ORIFICE AIR VALVE	
SLUICE VALVE	
WASH OUT	
END CAP	



HOSPITAL ROAD PART 2 - RIGHT



CLIENT:
NATIONAL WATER SUPPLY
& DRAINAGE BOARD

JAFFNA KILINOCHCHI WATER SUPPLY
& SANITATION PROJECT

CONSULTANTS:
GRONTMIL
AND DENMARK

TITLE:
DISTRIBUTION SYSTEM /
JMC AREA - OLD PARK ZONE
LONGITUDINAL SECTION

REV	DESCRIPTION	DATE	SIGN

CONSULTANT

DESIGN	DRAWN	CHECKED	CHECKED THE CONFORMITY OF THE DESIGN WITH ALL THE STRUCTURAL REQUIREMENTS AND RECOMMENDED
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APPROVED

PROJECT DIRECTOR	DATE

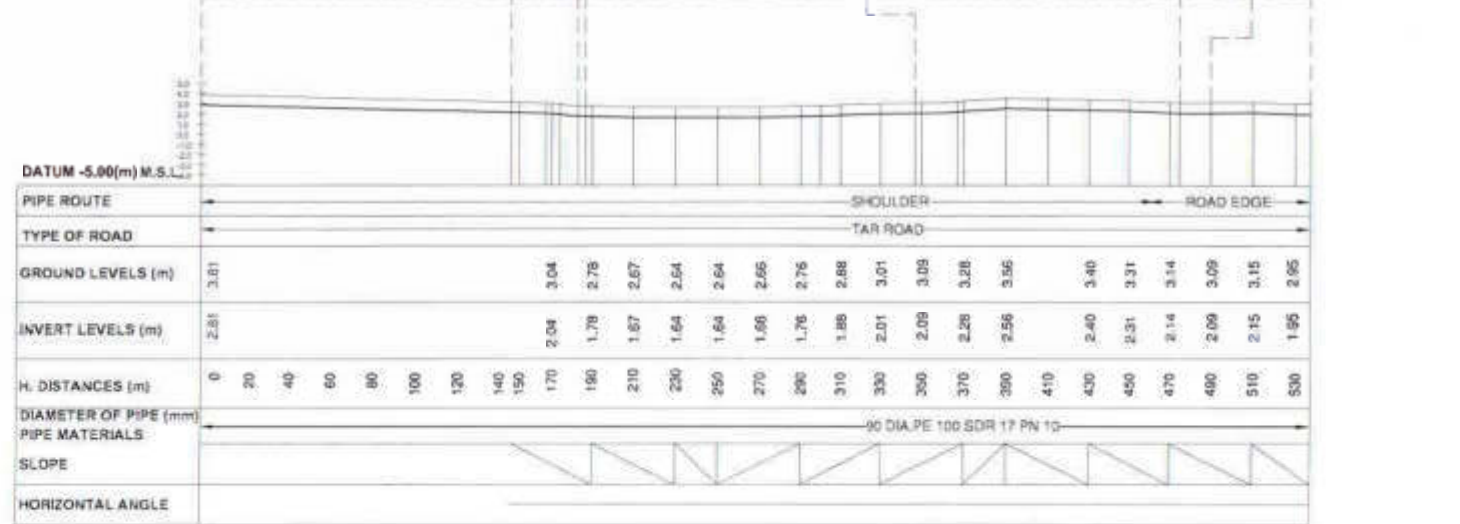
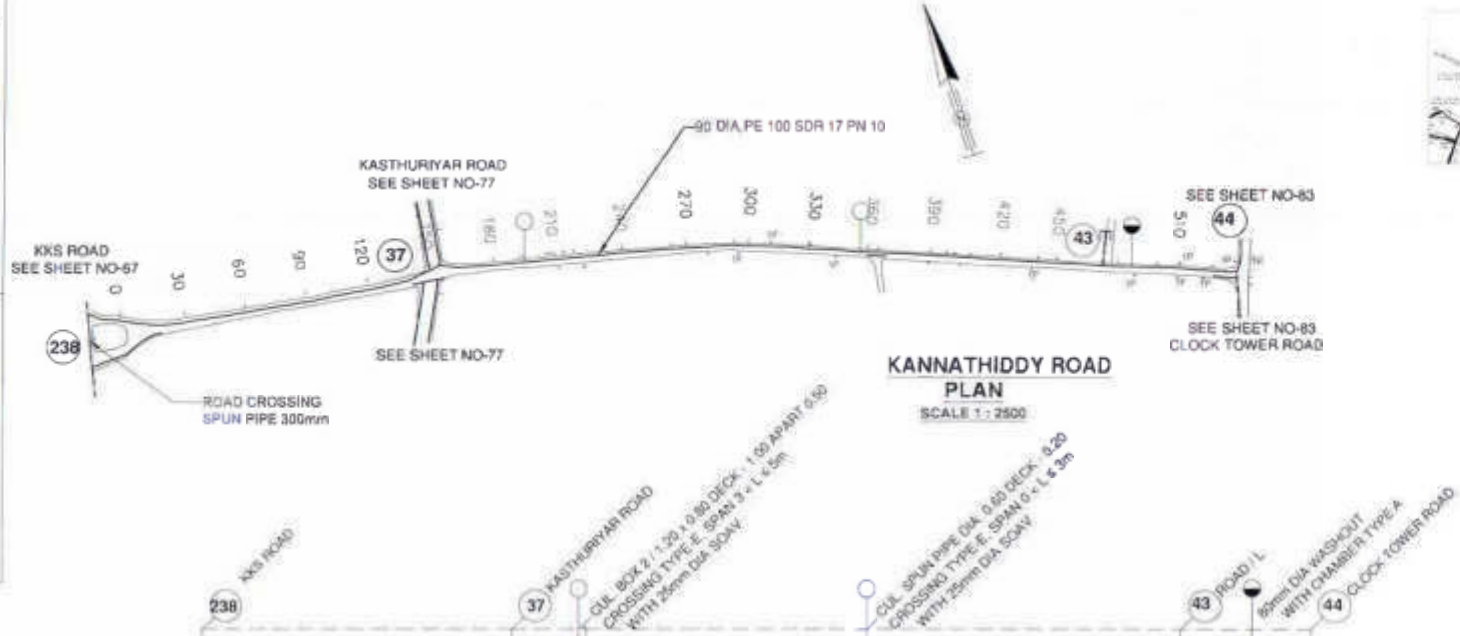
TENDER ISSUE

LEGEND

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- DR - DRAIN
- MH - MANHOLE
- CUL - CULVERT
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- STUCK - STUCK
- PO - POST BOX
- T - TREE
- B - BUILDING
- P - PAVEMENT
- W - WALL
- G - GATE
- TAP - TAP
- F - FENCE
- LF - LIVE FENCE
- TF - TRAFFIC SIGN

PIPE LINE

- 25mm DIA SINGLE ORIFICE AIR VALVE
- 50mm DIA LARGE ORIFICE AIR VALVE
- 80mm DIA DOUBLE ORIFICE AIR VALVE
- SLURGE VALVE
- WASH OUT
- END CAP

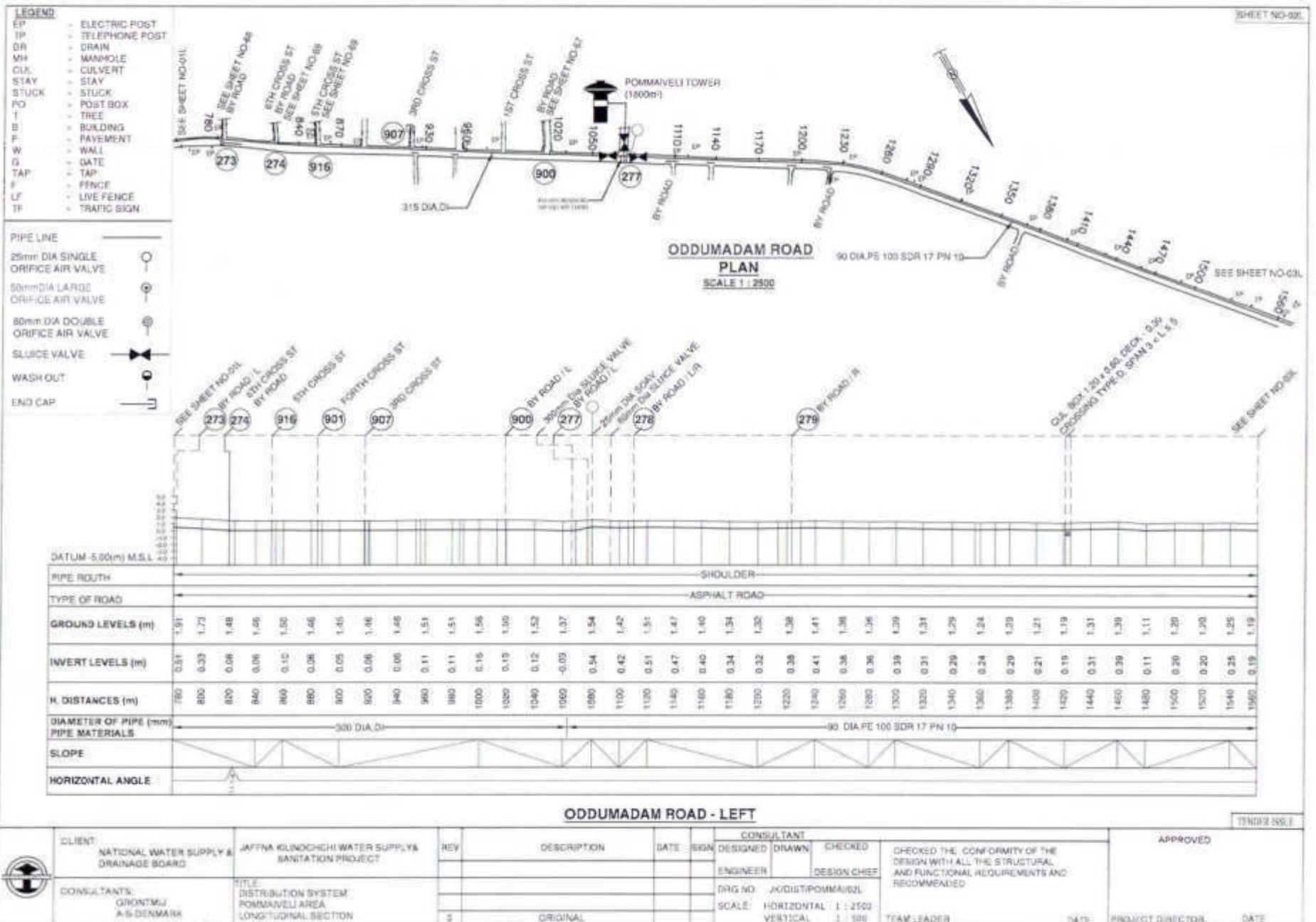


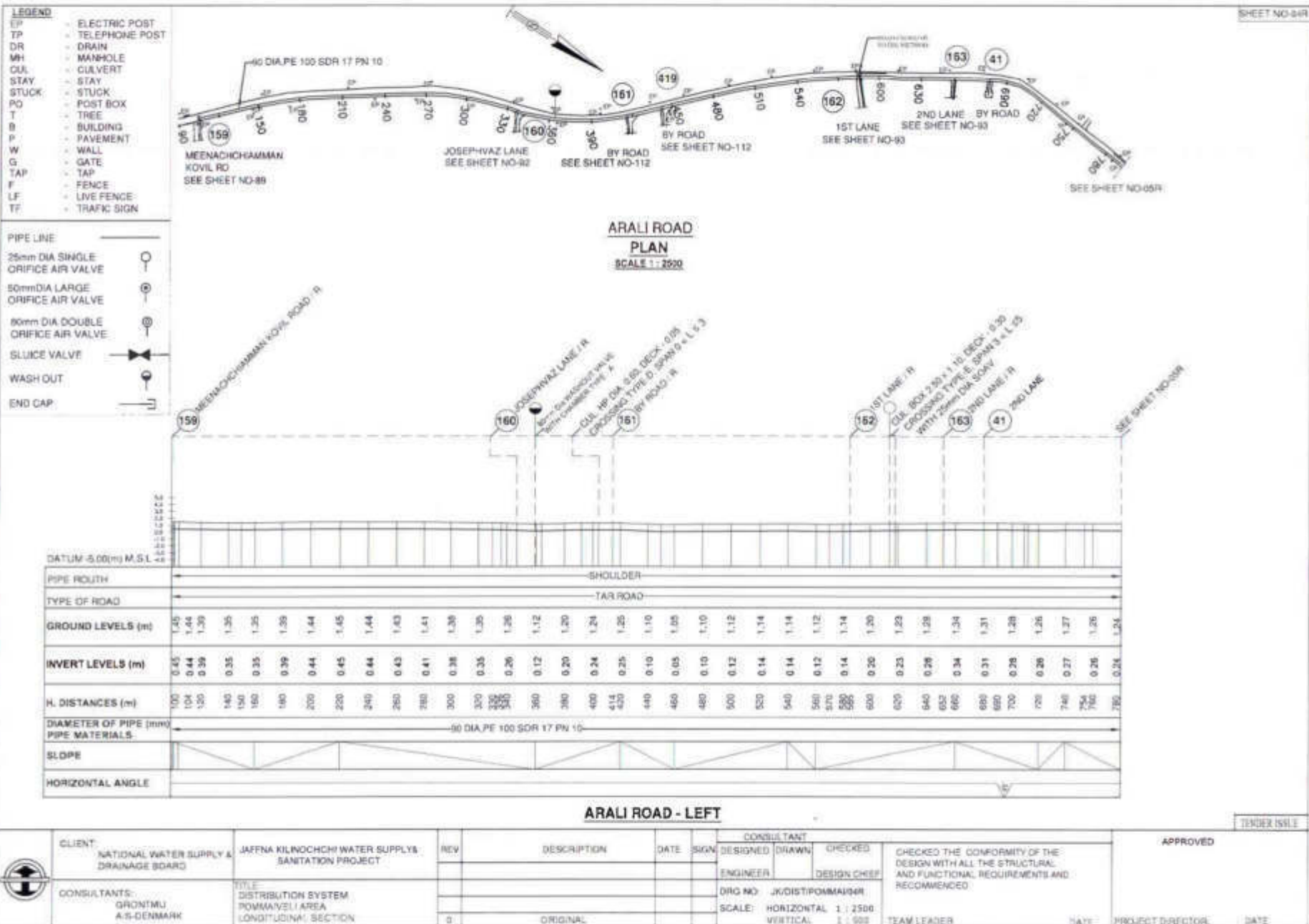
KANNATHIDDY ROAD - LEFT

TENDER ISSUE



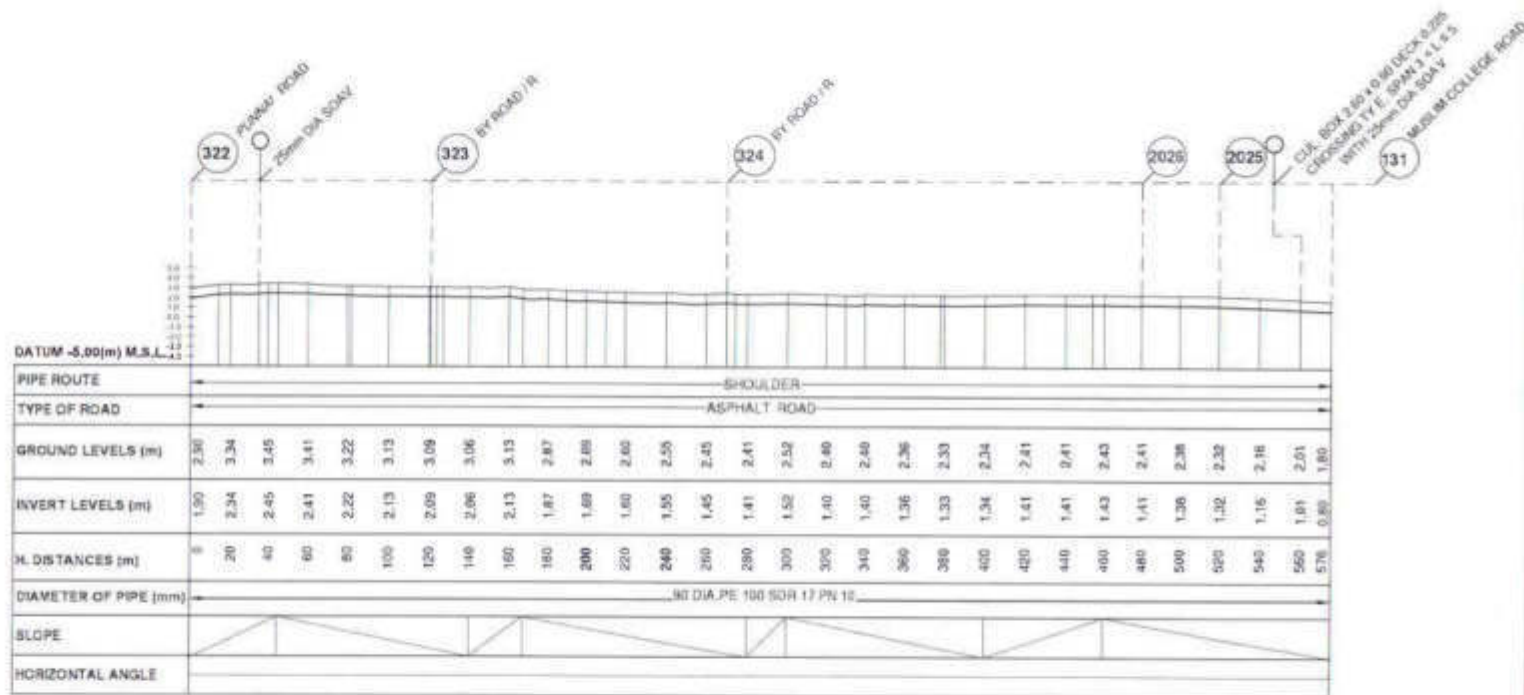
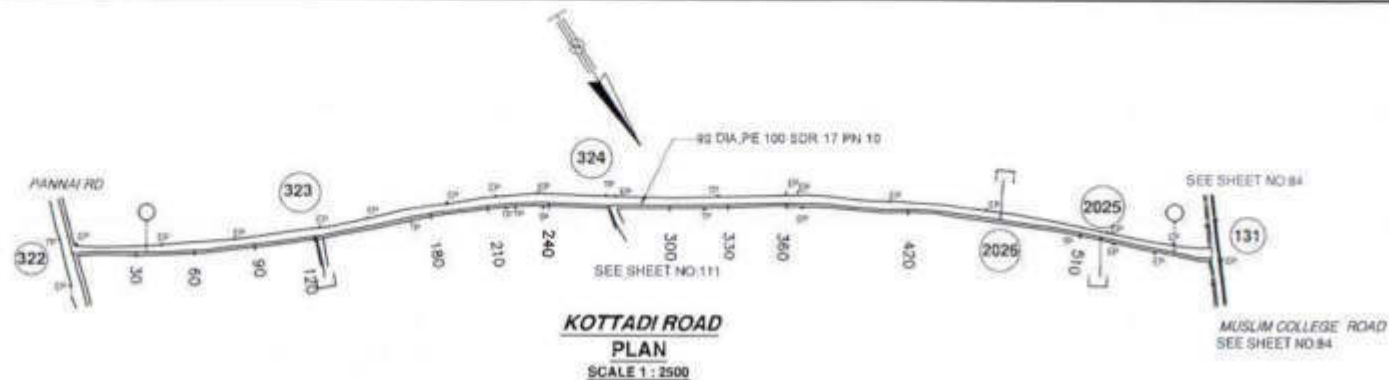
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									PROJECT DIRECTOR		DATE





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Annex – 2: Legal and Policy Framework – Involuntary Resettlement (National and ADB)

1. **Policy Framework.** Resettlement framework of the project follows all applicable laws / regulations of Sri Lanka and Asian Development Bank's (ADB's) Safeguards Policy Statement (SPS), 2009. A summary of laws and regulations is in following paragraphs.

A. National Laws and Regulations

2. The Land Acquisition Act (LAA) of 1950 and Subsequent Amendments and

Regulations. The LAA of 1950 is the most important legal provision which spell out the land acquisition process in Sri Lanka. It has several amendments, the latest being the version of 1986 and the regulations 2008 gazette as No 1585/7 on 20 January 2009.

3. The procedure for land acquisition and payments of compensation for acquired lands by the government for public purposes are laid down in the LAA. It provided the payment of compensations at market rates for lands, structures and crops. In Chapter 460 of the LAA the procedure is explained in the following manner:

- (i) Preparation of acquisition proposal by the requesting agency and submission to the Ministry of Lands and Land Development.
- (ii) Registration of the proposal by Ministry of Lands and Land Development, posting of notices by the relevant secretaries and conduct of advanced training by the Survey Superintendent (Sections 2, 248 and 249.)
- (iii) Investigation and calling for objections. (Sections – 4, 4.3, 38a, 250, 251, 252.) (iv) Deciding to acquire the land. (Sections – 5, 6, 253, 254, 255).
- (v) Inquiry into claims and payment of compensation (Sections 7, 7.2, 9, 10.1a, 17, 255, 256, 257, 259, 261).
- (vi) Taking over of possession after the acquisition (Sections 38 in case of emergency acquisition and 262).
- (vii) Vesting of certificates (Sections 44.1 and 267).

4. The most important steps of the land acquisition process described in the LAA can be summarized below:

- (i) A notice to be issued explaining the purpose of acquiring the land.
- (ii) Declaration also has to be issued specifying the purpose of acquisition and describing the land and requiring the parties to notify the acquiring officer to make their claims in writing including the expected amount of compensation.

- (iii) Acquiring officer (Divisional Secretary of the area) holds an inquiry into the market value of the land, the claims for compensation and the legality of claimants (advised by valuation officers).
- (iv) Acquiring officer either makes the decision on the claims or refers the claims to be District Courts or Primary Courts.
- (v) Following the decision (either by the acquiring officer or the Courts) the acquiring officer makes an award after determining the persons who are entitled to compensation deemed to be allowed for the acquisition and apportionment of the compensation among the persons with interest and;
- (vi) In the event of a dispute over the determination it may be appealed to either the Compensation Review Board or Court of Appeal within 21 days of the receipt of the notification of the award. If there are no appeals the compensation will be paid.
- (vii) After making the awards, the Land Minister publishes of gazettes a "Vesting Order" for the possession of the land and the occupants have to vacate the land.

5. The Land Acquisition Regulations, 2008, gazetted on 20 January 2009 stipulates the basis of assessing the market value of any land or the compensation caused by the acquisition of any land under LAA. Market value should be assessed:

- (i) In the case of land where part of the land is acquired and when its value is a value proportionately lower than the market value of the main land, the compensation should be made proportionate to the value of the main land.
- (ii) Where the date of intention to acquire was published, the building is used for occupation and or business purposes or is intended to be used for occupation and or business purposes, the difference between the cost of reconstruction and the value of building, based on determination of market value under section 1.1 should be paid as additional compensation.
- (iii) Value based on development potential could be considered for paddy lands acquired where permission to fill such lands have been granted by the Agrarian Services Commissioner General.
- (iv) When an acquired building is occupied by a tenant/statutory tenant protected under the provisions of the Rent Act No.7 of 1972 (as amended thereafter) the compensation should be ascertained in proportion, having regard to the provision of Rent (Amendment) Act No. 26 of 2006.

6. Injuries affection and severance is to be determined as damages caused by any severance and injuries affection should be allowed full payment of disturbances and other expenses.

7. To fulfil the requirement of the definition of compensation, in addition to the compensation under Sections 1 and 2 above which are based on "market value" compensation for disturbances based on "value to owner" should be paid under the following subheadings, after taking into consideration written claims made.

- (i) Expenses incurred for appearing for the section 9 inquiry;
- (ii) Expenses for finding alternative expenses;
- (iii) Cost incurred in change of residence;

- (iv) Cost of advertising;
- (v) Re-fixing cost of fixtures and fittings;
- (vi) Expenses incurred for transport;
- (vii) Loss of earning from business (within limits given in Prevailing Act);
- (viii) Increased overhead expenses;
- (ix) Double payments;
- (x) All other expenses to the owner due to the acquisition;
- (xi) Any other additional expenses for disturbance or compensation not connected under any other subsection of LAA which is not directly connected to market value of the land; and
- (xii) When an owner of a house or of an investment property is displaced, an additional 10% payment based on market value.

8. The acquisition process is a complex and laborious process with discrete steps, and no government agency or department can deviate from the stipulated process in the LAA of 1950 and subsequent amendments, revisions and regulations.

9. **Land Development Ordinance (1935).** By virtue of this ordinance and its subsequent amendments, households that are occupying crown land may request permission from the Divisional Secretary to be regularized on the land. The Acquiring Officer (Divisional Secretary) makes an investigation and may recommend giving a one year permit initially, if the land is not reserved land or not required for any other government purpose. Subsequently, the person may be given a long lease which constitutes legal title without right to disposal. The term for such titles is *Swarna Boomi* or *Jaya Boomi*.

10. There are two categories of encroachers into crown land: (i) middle income category, the households that have other agricultural land, and (ii) lower income category and landless households. By virtue of this ordinance landless households will be given special consideration for allocation of Crown land that is not reserved land.

11. **State Land Ordinance No. 8 of 1947.** This Ordinance is known as the State Land Ordinance No. 8 of 1947, Section (b) of the ordinance explains that land grants which can be made, and rents to be obtained for the grants. It is mentioned in Section 22 that the period is up to 50 years only and the prescribed form given in the ordinance should be filled and signed. A person seeking crown land has to appeal to the Government Agent of the area. Such person has to pay the rent decided by the land commissioner or the Government Agent of the area. Provisions have also been provided to officers such as General Manager Railways and Chairman of the Colombo Port to rent out lands under their purview, under special circumstances.

12. **Prescriptive Ordinance No. 22 (1871).** Under Sections 3 and 13 of this ordinance households who have encroached into private land and have been occupying the land for at least 10 years may apply through the courts for prescriptive rights to the land.

13. **National Environment Act (NEA) No. 47 of 1980.** There are some provisions in the NEA Act No. 47 of 1980, with the amended Act No. 56 of 1988 which refers to Involuntary Resettlement. The Minister in charge of the subject of environment has prescribed projects and undertakings for which approval is necessary under the Provisions of the NEA.
14. The Minister by gazette notification No. 858/14 of 23 February 1995 has determined the types of projects and undertakings which need the approval under the terms of the NEA. The schedule includes item 12 which refers to “involuntary resettlement exceeding 100 families, other than resettlement resulting from emergency situations”.
15. The LAA provides compensation only for land, structures and crops and provisions are not available to address key resettlement issues to mitigate or avoid impacts on people resulting from land acquisition. In addition, non titled people and other dependents on land cannot be assisted under the LAA.
16. To address the gaps in the LAA in addressing the key resettlement issues such as exploring alternative project options that avoids or minimize impacts on people, the government (through the Cabinet of Ministers) adapted the National Involuntary Resettlement Policy (NIRP) on 24 May 2001. The NIRP which is prepared with the objective of avoiding, minimizing and mitigating negative impacts of involuntary resettlement by facilitating the reestablishment of the affected persons on a productive and self-sustaining basis, highlights the need for consultation of affected persons and their participation in the resettlement process actively and on preparation of resettlement plan. The NIRP also mentions that the Central Environmental Authority (CEA) will review and approve resettlement plans prepared by the project executing agencies and the plans will be publicly available.
17. In addition to NIRP, the multilateral financing institutions such as ADB and World Bank have similar safeguard policies on issues regarding land acquisition and resettlement. The World Bank’s policy on Involuntary Resettlement is reflected in operational policy/bank procedure (op/BP) 4.12, December 2001. ADBs policy is in SPS, 2009.
18. **National Involuntary Resettlement Policy (NIRP) 2001.** Various public and private sector development projects causes acquisition of lands for their development. Affected persons who are relocated have to deal with unfamiliar locations and various other hardships. These developments take place without satisfactory consideration to resettlement. Accordingly, people have shown resistance to the process and where displacement is involved, the projects are being delayed. In order to address the above mentioned issues the Steering Committee appointed, reviewed and approved the NIRP on 5 March 2001 and the Government of Sri Lanka adopted (through its Cabinet of Ministers) as a National Policy on 24 May 2001. In line with the Resettlement guidelines of ADB, the NIRP also mentions of fair and just treatment to affected persons who do not have documented title to their land and also mentions that all the effects to be mitigated and compensated.
19. The NIRP aims to mitigate social impacts of involuntary resettlement under any programs and/or projects funded by the government or donor agencies by (i) exploring alternative project options which avoid or minimize impacts on people; (ii) compensating those who do not have title to land; (iii) consulting

affected people and hosts on resettlement options; (v) providing for successful social and economic integration of affected people and their hosts; and (v) full social and economic rehabilitation of affected people. NIRP lists the following policy principles which are applicable to all development projects: (i) Involuntary resettlement should be avoided or reduced as much as possible by reviewing alternatives to the Project as well as alternatives within the Project.

- (ii) Where involuntary resettlement is unavoidable, affected people should be assisted to re-establish themselves and improve their quality of life.
- (iii) Gender equality and equity should be ensured and adhered to throughout the policy application.
- (iv) Displaced persons should be fully involved in the selection of relocation sites, livelihood compensation, and development options as early as possible.
- (v) Replacement land should be an option for compensation in the case of loss of land; in the absence of replacement land cash compensation should be an option for all displaced persons.
- (vi) Compensation for loss of land, structures, other assets and income should be based on full replacement cost and should be paid promptly. This should include transaction costs.
- (vii) Resettlement should be planned and implemented with full participation of the provincial and local authorities.
- (viii) To assist those affected to be economically and socially integrated into the host communities, participatory measures should be designed and implemented.
- (ix) Common property resources and community and public services should be provided to project-affected people.
- (x) Resettlement should be planned as a development activity for the benefit of the project affected people.
- (xi) Displaced persons who do not have documented title to land should receive fair and just compensation and assistance.
- (xii) Vulnerable groups should be identified and be given appropriate assistance to substantially improve their income and living standards.
- (xiii) Project Executing Agencies should bear the full costs of compensation and resettlement.

20. Adhering to the above objectives the scope of the NIRP includes all development induced land acquisition or recovery of possession by the State. NIRP requires that a comprehensive Resettlement Action Plan (RAP) be prepared. Where 20 families are affected the NIRP still requires a RAP with lesser level of detail. NIRP applies to all projects irrespective of source of funding.

B. ADB's Safeguard Policy Statement

21. The ADB policy on involuntary resettlement (SPS 2009) aims to avoid or minimize the impacts on people affected by a project and to safeguard the affected parties who lose their land and property and whose livelihood is affected as a result of land acquisition or temporary construction activities. The main objective of resettlement planning is to provide RAP's with standard of living equal to, if not better than their standard of original living. There are three components to the policy. They are (i) compensation for the lost assets, livelihood and income;

(ii) assistance for relocation; and (iii) assistance for rehabilitation to achieve at least the pre project level of well-being. This is considered as a development opportunity and turns displaced and affected people as project beneficiaries. The objectives and principles of ADB's SPS on Involuntary resettlement principles are summarized as given below:

22. Objectives. To avoid involuntary resettlement wherever possible; to minimize involuntary resettlement by exploring project and design alternatives; to enhance, or at least restore, the livelihoods of all displaced persons in real terms relative to pre-project levels; and to improve the standards of living of the displaced poor and other vulnerable groups.
23. Scope and Triggers. The involuntary resettlement safeguards covers physical displacement (relocation, loss of residential land, or loss of shelter) and economic displacement (loss of land, assets, access to assets, income sources, or means of livelihoods) as a result of (i) involuntary acquisition of land; or (ii) involuntary restrictions on land use or on access to legally designated parks and protected areas. It covers them whether such losses and involuntary restrictions are full or partial, permanent or temporary.
24. **Policy Principles.**
 - (i) Screen the project early on to identify past, present, and future involuntary resettlement impacts and risks. Determine the scope of resettlement planning through a survey and/or census of displaced persons, including a gender analysis, specifically related to resettlement impacts and risks.
 - (ii) Carry out meaningful consultations with affected persons, host communities, and concerned nongovernment organizations. Inform all displaced persons of their entitlements and resettlement options. Ensure their participation in planning, implementation, and monitoring and evaluation of resettlement programs. Pay particular attention to the needs of vulnerable groups, especially those below the poverty line, the landless, the elderly, women and children, and Indigenous Peoples, and those without legal title to land, and ensure their participation in consultations. Establish a grievance redress mechanism to receive and facilitate resolution of the affected persons' concerns. Support the social and cultural institutions of displaced persons and their host population. Where involuntary resettlement impacts and risks are highly complex and sensitive, compensation and resettlement decisions should be preceded by a social preparation phase.
 - (iii) Improve, or at least restore, the livelihoods of all displaced persons through (a) land-based resettlement strategies when affected livelihoods are land based where possible or cash compensation at replacement value for land when the loss of land does not undermine livelihoods; (b) prompt replacement of assets with access to assets of equal or higher value; (c) prompt compensation at full replacement cost for assets that cannot be restored; and (d) additional revenues and services through benefit sharing schemes where possible.
 - (iv) Provide physically and economically displaced persons with needed assistance, including the following: (a) if there is relocation, secured tenure to relocation land, better housing at resettlement sites with comparable access to employment and production opportunities, integration of resettled persons economically and socially into their host

- communities, and extension of project benefits to host communities; (b) transitional support and development assistance, such as land development, credit facilities, training, or employment opportunities; and (c) civic infrastructure and services, as required.
- (v) Improve the standards of living of the displaced poor and other vulnerable groups, including women, to at least national minimum standards. In rural areas provide them with legal and affordable access to land and resources, and in urban areas provide them with appropriate income sources and legal and affordable access to adequate housing.
 - (vi) Develop procedures in a transparent, consistent, and equitable manner if land acquisition is through negotiated settlement to ensure that those people who enter into negotiated settlements will maintain the same or better income and livelihood status.
 - (vii) Ensure that displaced persons without titles to land or any recognizable legal rights to land are eligible for resettlement assistance and compensation for loss of nonland assets.
 - (viii) Prepare a resettlement plan elaborating on displaced persons' entitlements, the income and livelihood restoration strategy, institutional arrangements, monitoring and reporting framework, budget, and time-bound implementation schedule.
 - (ix) Disclose a draft resettlement plan, including documentation of the consultation process in a timely manner, before project appraisal, in an accessible place and a form and language(s) understandable to affected persons and other stakeholders. Disclose the final resettlement plan and its updates to affected persons and other stakeholders.
 - (x) Conceive and execute involuntary resettlement as part of a development project or program. Include the full costs of resettlement in the presentation of project's costs and benefits. For a project with significant involuntary resettlement impacts, consider implementing the involuntary resettlement component of the project as a stand-alone operation.
 - (xi) Pay compensation and provide other resettlement entitlements before physical or economic displacement. Implement the resettlement plan under close supervision throughout project implementation.
 - (xii) Monitor and assess resettlement outcomes, their impacts on the standards of living of displaced persons, and whether the objectives of the resettlement plan have been achieved by taking into account the baseline conditions and the results of resettlement monitoring. Disclose monitoring reports.

Annex – 3: Resettlement Screening and Categorization Check List

A. Introduction

1. This screening determines resettlement requirements of supply & laying of distribution networks under Jaffna Water Supply Project and categories the resettlement impact.

B. Information on project/subproject/component:

- a. Administrative Name: Jaffna City
- b. Location: Northern Province, Sri Lanka
- c. Civil work dates (proposed): Laying of water supply pipelines
- d. Technical Description: This is a new water supply scheme for Jaffna City area from the Jaffna water supply project involves laying distribution pipe lines

C. Screening Questions for Involuntary Resettlement Impact

2. Below is the initial screening for involuntary resettlement impacts and due diligence exercise. Both permanent and temporary impacts must be considered and reported in the screening process.

Involuntary Resettlement Impacts	Yes	No	Not known	Remarks
Will the project include any physical construction work?	✓			<i>Laying of pipes</i>
Does the proposed activity include upgrading or rehabilitation of existing physical facilities?	✓			
Will it require permanent and/or temporary land acquisition?		✓		
Is the ownership status and current usage of the land known?				<i>Not applicable - No land acquisition</i>
Are there any non-titled people who live or earn their livelihood at the site or within the corridor of impact (COI) / Right of Way (ROW)?		✓		
Will there be loss of housing?		✓		
Will there be loss of agricultural plots?		✓		
Will there be losses of crops, trees, and fixed assets (i.e. fences, pumps, etc.)?		✓		

Will there be loss of businesses or enterprises?		✓		
Will there be loss of incomes and livelihoods?		✓		
Will people lose access to facilities, services, or natural resources?		✓		
Will any social or economic activities be affected by land use-related changes?		✓		
Are any of the affected persons from indigenous or ethnic minority groups?		✓		

D. Involuntary Resettlement Impact

3. After reviewing the answers above, executing agency/ Safeguard Team confirms that the proposed subsection/ section/ subproject/component (tick as appropriate):

☐ Has involuntary resettlement impact, a resettlement plan (or corrective action plan) is required

☒ Has No involuntary resettlement impact, no resettlement plan is required.

E. Screening Questions for Indigenous People Impact

KEY CONCERNS (Please provide elaborations on the Remarks column)	YES	NO	NOT KNOWN	Remarks
A. Indigenous Peoples Identification				
1. Are there socio-cultural groups present in or use the project area who may be considered as "tribes" (hill tribes, scheduled tribes, tribal peoples), or "indigenous communities" in the project area?		✓		
2. Are there national or local laws or policies as well as anthropological researches/studies that consider these groups present in or using the project area as belonging to "ethnic minorities", scheduled tribes, tribal peoples, national minorities, or cultural communities?				No Indigenous people – Not applicable
3. Do such groups self-identify as being part of a distinct social and cultural group?				Not Applicable

4. Do such groups maintain collective attachments to distinct habitats or ancestral territories and/or to the natural resources in these habitats and territories?				Not Applicable
5. Do such groups maintain cultural, economic, social, and political institutions distinct from the dominant society and culture?				Not Applicable
6. Do such groups speak a distinct language or dialect?				Not Applicable
7. Has such groups been historically, socially and economically marginalized, disempowered, excluded, and/or discriminated against?				Not Applicable
8. Are such groups represented as "Indigenous Peoples" or as "ethnic minorities" or "scheduled tribes" or "tribal populations" in any formal decision making bodies at the national or local levels?				Not Applicable
B. Identification of Potential Impacts				
9. Will the project directly or indirectly benefit or target Indigenous Peoples?		✓		
10. Will the project directly or indirectly affect Indigenous Peoples' traditional socio-cultural and belief practices? (e.g. child-rearing, health, education, arts, and governance)		✓		

	YES	NO	NOT KNOWN	Remarks
<p>KEY CONCERNS</p> <p>(Please provide elaborations on the Remarks column)</p>				
11. Will the project affect the livelihood systems of Indigenous Peoples? (e.g., food production system, natural resource management, crafts and trade, employment status)		✓		
12. Will the project be in an area (land or territory) occupied, owned, or used by Indigenous Peoples, and/or claimed as ancestral domain?		✓		

C. Identification of Special Requirements <i>Will the project activities include:</i>				
13. Commercial development of the cultural resources and knowledge of Indigenous Peoples?		✓		If the answer is "yes" the subproject will be categorized as "A" and ineligible for Project financing
14. Physical displacement from traditional or customary lands?		✓		
15. Commercial development of natural resources (such as minerals, hydrocarbons, forests, water, hunting or fishing grounds) within customary lands under use that would impact the livelihoods or the cultural, ceremonial, spiritual uses that define the identity and community of Indigenous Peoples?		✓		
16. Establishing legal recognition of rights to lands and territories that are traditionally owned or customarily used, occupied or claimed by indigenous peoples?		✓		
17. Acquisition of lands that are traditionally owned or customarily used, occupied or claimed by indigenous peoples?		✓		

F. Indigenous People Impact

4. After reviewing the answers above, Project Management Unit and Sub Project Coordination Unit safeguard manager/officer confirms that the proposed subsection/ section/ subproject/component (tick as appropriate):

- ☐ Has significant Indigenous People impact, the subproject is ineligible for Project financing
- ☐ Has limited Indigenous People impact, an indigenous people plan (or specific IP action plan) is required
- ☒ Has No indigenous people impact, no indigenous people plan/specific action plan is required.

AGREEMENT BETWEEN ROAD DEVELOPMENT AUTHORITY AND NATIONAL WATER SUPPLY & DRAINAGE BOARD FOR EXCAVATION AND LAYING WATER SUPPLY PIPES & PERMANENT REINSTATEMENT OF TRENCHES (Specimen)

This agreement is made and entered into on day of..... 2018 in Colombo in the Democratic Socialist Republic of Sri Lanka. This agreement shall be invalid after the expiry of defects liability period as describe below.

BY AND BETWEEN

Road Development Authority a Corporation incorporated under the Road Development Authority Act. No. 73 of 1981 as amended through Act. NO. 7 of 2009 and having its principal office at "Sethsiripaya", Battaramulla, hereinafter called and referred to as the "RDA" and which term or expression shall mean and include the said "Road Development Authority" or its successors and permitted assigns of the one part.

AND

National Water Supply & Drainage Board, a body corporate and duly established under the provision~ of the National Water Supply & Drainage Board Law No. 02 of 1974 and having its Head office at Galle Road, Ratmalana in Sri Lanka and hereinafter called and referred to as "NWS&DB" which term or expression shall mean and include the said "National Water Supply & Drainage Board" or its successors and permitted assigns of the other part.

It has become necessary to make provision for reinstatement of excavated section of the roads to the entire satisfaction of RDA due to trenching work done by the NWS&DB in respect of laying water supply pipes by the NWS&DB.

No	Name of the Road	Location From	Location To	Distance (m)

NOW THIS AGREEMENT WITNESSETH: That the RDA and the NWS&DB have mutually agreed as follows: Permission will be granted by the RDA according to the following terms and conditions.

TERMS AND CONDITIONS

1. NWS&DB shall be held responsible for reinstatement of all excavated sections conforming to the RDA Specifications applicable to the road works contract and to the entire satisfaction of the RDA. This shall include disposal of excavated materials and taking responsibility to any damages caused to the adjoining properties or road structures or other utilities during the pipe laying & reinstatement period from End of 2018 to End of 2020.
2. The defects liability period for this work shall be twelve (12) calendar months from the date of handing over of the duly reinstated sections to RDA. NWS&DB shall be held responsible to rectify

all defects, which might occur as a result of trenching within the defects liability period. The length of handing over sections and the dates will be decided by mutual agreement of "RDA¹ & NWS&DB²". The defects correction shall be completed within the period of three days from the date of instruction given by RDA. The RDA will make arrangements to complete the defects if the NWS&DB fails to do so using the fund deposited under CI-31.

3. A comprehensive programme of work shall be submitted prior to the commencement of trenching. The programme has to be approved by the **Project Director - (RDA) or his authorized representative.**
4. Width of the trench shall be according to drawings forwarded by NWS&DB.
5. All unsuitable soil should be directly loaded to the trucks & should be transported to the disposal site. No approval shall be granted to use excavated soil for any filling works of the trenching unless the tests for compliance with specification are carried out and approved by the RDA.
6. All excavated trenches in the carriageway (of the road to be rehabilitated and at by road crossings) and in shoulders and footwalks, **upto 300 mm** or half the diameter of the pipe whichever is greater above the pipe crest, shall be reinstated by filling with saturated sand or with any other material and method approved by the RDA. The balance depth of the trenches shall be reinstated as per the material and construction requirements of the RDA Specifications applicable to the ongoing road works contract referred to hereinbefore. Salient details of material and construction requirements are given in Appendices 1, 2, 3 & 4, referred to hereinafter.
7. At excavated trenches in the carriageway (of the road to be rehabilitated and at by road crossings) temporary reinstatement shall be carried out according to the cross section given in Appendix 1.
8. At excavated trenches referred to in item 7 in the carriageway (of the road to be rehabilitated and at by road crossings, permanent reinstatement shall be carried out according to the cross section given in Appendix 2. In this case the top 50 mm of the Aggregate Base Course already constructed shall be removed, compacted to required density, primed and the 50 mm thick Asphalt Concrete layer shall be laid and compacted.
9. At excavated trenches in shoulders and embankment, reinstatement shall be carried out according to the cross sections given in Appendix 3 and Appendix 4 respectively.
10. NWS&DB shall carry out compaction tests at each and every layer of backfilling in 50m intervals or as required by RDA in the presence of RDA staff. RDA's staff shall carry out random checks to ascertain the consistency of backfilling process. RDA will fully monitor the work from the commencement to completion of the work.
11. Excavation deeper than 1.0m shall be protected with shoring to protect either side of the road due to such excavations. NWS&DB shall forward the method statement before commencing the work.
12. NWS&DB should carry out the excavation works using method approved by the **RDA** and special care should be taken to avoid damages to the road surface, drains, culverts, kerbs and adjoining properties.
13. Excavation will not be allowed during the adverse weather conditions, which will deteriorate the road surface/shoulder/foot walk and structures rapidly.

14. NWS&DB is liable to compensate/payor rectify all defects arising due to trenching (Viz settlement adjoining the trench, cracks and damages caused to the road surface and also due to breaking of other service lines and any damages to adjoining properties such as boundary walls, drains, buildings etc.) to the satisfaction of RDA & the affected parties.
15. Proper barricading and safety precautions are to be taken for the safety of the road users while trenching and until permanent reinstatement is done. This shall be done as per the manual on traffic control devices part 1 & 2 published by the National Road Safety Secretariat-Ministry of Highways.
16. Proper illumination/reflective signs shall be installed to identify the trenches during the night time.
17. Any material deposited on the road surface, drains and cover slabs due to trenching should be thoroughly cleaned immediately.
18. Side drains on both sides of the road should not be blocked for any reasons.
19. Pipes should be buried at a minimum depth of 1.0m below the road surface/foot walks/shoulder/embankment (i.e. 1.0m below from the road surface to top of the pipe crest). This minimum depth can be reduced to 600mm at identified locations under unavoidable circumstances. In places where this minimum cover of 600 mm too cannot be maintained, the pipe shall be encased in concrete and a minimum cover of 200mm shall be maintained from top of encasement to road surface/foot walks/shoulders. At culvert crossings the pipes should be encased in concrete with a minimum cover of 100mm from top of encasement to the culvert bed level.
20. Arrangements shall be made with police in order to maintain the traffic for allowing free flow during the execution of the trenching work in carriageway and by road locations and prior approval to be taken from the Senior superintendent of Police before excavation.
21. Heavy machinery should not be used for excavation and reinstatement of trenches. Any supply material and excavated soil should not be dumped at road side.
22. RDA will not be held responsible for the damages caused to any property or party as a result of trenching, However, damages caused to the properties of RDA shall be repaired by NWS&DB to the satisfaction of the RDA.
23. Working area at a stretch shall be limited to 250m where the road is straight and shall be restricted to 150m where the road is not so,
24. Manhole should be located without obstructing the side drains and top surface of the manholes should be made to the same level of the foot walk or existing road surface/foot walks.
25. Existing water way should not be disturbed at the bridge and culvert location.
26. On completion of work in a particular stretch, all excess material, debris should be removed from the road platform (i.e., carriageway, shoulder, drains etc.,) to the satisfaction of the, RDA.
27. If there is any work scheduled to be carried out during night, prior approval to be obtained from the relevant Police Station. Weekly works programme shall be submitted by NWS&DB to Police and RDA indicating locations, time period, machines utilized etc.

28. Selections and checking of backfilling materials shall be according to RDA Specifications applicable to the road works contract List of borrow pits, gravel quarries etc. should be forwarded to RDA before commencement of the work & approval has to be obtained from the RDA. Cost of the Tests and Administration charges to be paid by NWS&DB to RDA.

29. If NWS&DB decides to appoint a sub-contractor for Road Reinstatement instead of the main contractor, NWS&DB should forward details of sub-contractor to Chief Engineer, RDA for his approval before awarding the contract.

30. The NWS&DB shall abide by the specification issued by RDA applicable to the road works contract for temporary and permanent reinstatement of the trenches.

31. If NWS&DB scheduled to work during night, NWS&DB should take Police Assistance for Traffic Control/Security etc. and NWS&DB shall be liable to pay expenditure/ subsistence etc. of Department of Police and Road Development Authority.

32. NWS&DB shall pay RDA an amount equivalent to 05% of the reinstatement estimate amounting to Rupeesas cost of testing and RDA administrative fees and should be paid before the commencement of work.

NWS&DB shall deposit an amount equivalent to 10% of the reinstatement estimate amounting to Rupees as security before commencement of works. The security deposit will be released on completion of the defects liability period. A bank guarantee acceptable to the RDA may be submitted in lieu of the security deposit

NWS&DB shall complete all works and a proper handing over to be executed with scheduled period to the satisfaction of RDA

(a) NWS&DB shall ensure proper maintenance of the Water Supply System upon completion of this project.

Any leakages or damage to water pipes shall be attended to with least delay after notifying RDA officials concerned.

(b) Cost of shifting of water mains for any future widening & rehabilitation under road projects shall be borne by NWS&DB.

(c) Cost of any damages or claims by the Road works contractor against the RDA arising out of the acts of omission or commissions by NSW&DB or its permitted contractors, if approved by the Supervision Consultants, will have to be borne by the NWS&DB.

33. RDA will have the sole authority to suspend and / or cancel the work in case of non-adherence to the aforementioned clauses with due reference to the condition in breach.

34. After completion of the work, joint inspection to be done with Project Director or his authorized representative and Project Engineer (NWS&DB) and proper handing over to be done with "as Built drawings" (three copies and one soft copy) prepared by NWS&DB for pipe laying. (Complete three set of drawings to be submitted and should be prepared reference to Centre Line of the road.)

35. It is mutually agreed that any difference, dispute, controversy or claim arising from, out of or in connection with this MOU, or on the interpretation thereof or on the rights, duties, obligations, or liabilities of any party thereto or on the operation, breach, termination or invalidity thereof which

arises or occurs between the parties to this MOU which cannot be amicably settled between the parties, shall be finally settled in accordance with the rules and procedures of the Arbitration Act No.11 of 1995 of Sri Lanka; under the Rules of the Institute for the Development of Commercial Law & Practice (ICLP).

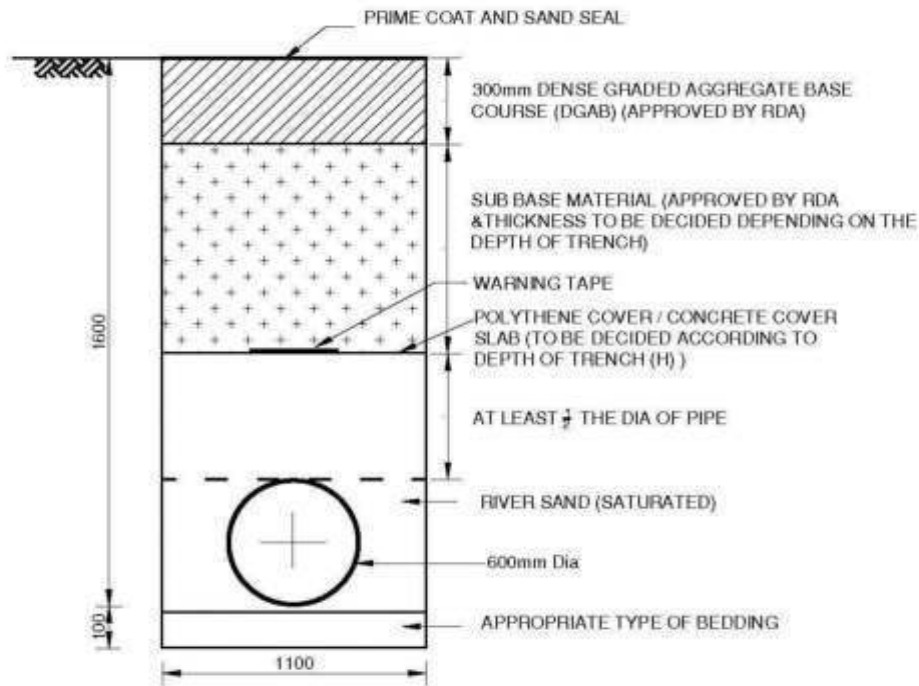
IN WITNESS WHEREOF the CHAIRMEN, **NATIONAL WATER SUPPLY & DRAINAGE BOARD** and **ROAD DEVELOPMENT AUTHORITY** have signed and caused their common seal to be affixed here to and another of the same tenor and date at the place herein before mentioned.

<p>On behalf of the ROAD DEVELOPMENT AUTHORITY is affixed here to on this day of 201.. at Colombo, Sri Lanka</p>	<p>On behalf of the NATIONAL WATER SUPPLY AND DRAINAGE BOARD is affixed here to on this day of... 201..at Colombo, Sri Lanka</p>
<p>..... Chairman / RDA</p>	<p>..... Chairman / NWS &DB</p>
<p>..... Board Member / RDA</p>	<p>..... Vice Chairman/ NWS &DB</p>
<p>WITNESSES</p> <p>1.Signature.....</p> <p>Name.....</p> <p>Address.....</p> <p>2. Signature.....</p> <p>Name.....</p> <p>Address.....</p>	<p>WITNESSES</p> <p>1. Signature.....</p> <p>Name.....</p> <p>Address.....</p> <p>2. Signature.....</p> <p>Name.....</p> <p>Address.....</p>

Appendix - 1

REINSTATEMENT OF TRENCHES ON CARRIAGEWAY

BACK FILLING & TEMPORARY REINSTATEMENT CARRIAGEWAY & AT LOCATIONS OF BY ROAD CROSSING



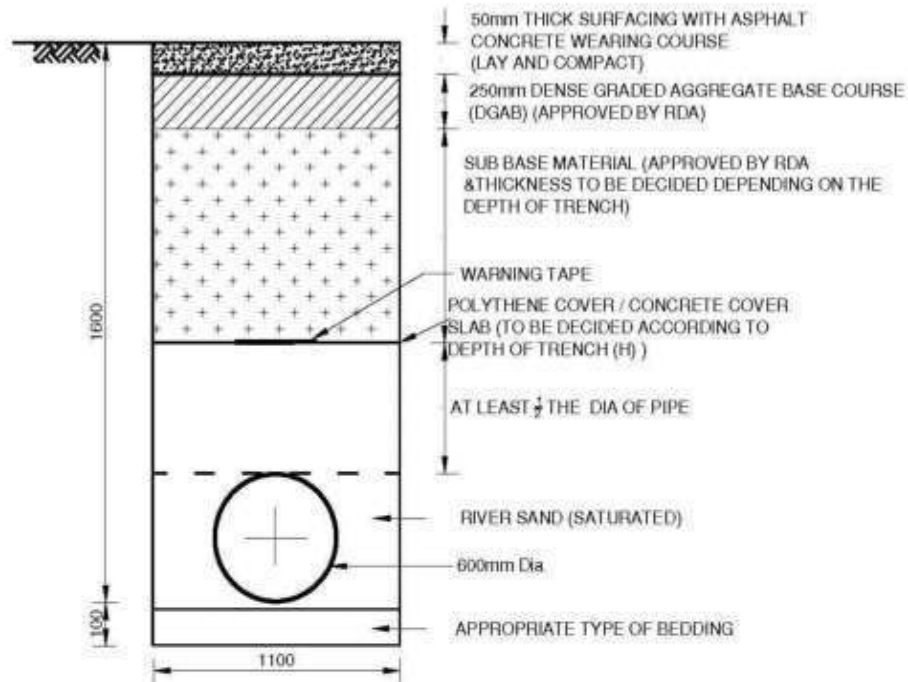
NOTE:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. PRIME COAT AND SAND SEAL
 - BINDER MATERIAL TO BE USED FOR PRIMING - CSS-1
 - RATE OF SPREAD OF BINDER IN PRIME COAT - 1160g/m^2
 - BINDER MATERIAL TO BE USED FOR SAND SEAL - CRS-1
 - RATE OF SPREAD OF BINDER IN SAND SEAL - 1160g/m^2
3. DENSE GRADED AGGREGATE BASE COURSE
 - DEGREE OF COMPACTION $\geq 98\%$ MODIFIED PROCTOR DENSITY
4. SUB BASE
 - CBR OF SUBBASE MATERIAL ≥ 20 (TO BE APPROVED BY RDA)
 - DEGREE OF COMPACTION $\geq 98\%$ MODIFIED PROCTOR DENSITY
5. SHOULDER
 - CBR OF SHOULDER MATERIAL ≥ 20 (TO BE APPROVED BY RDA)
 - DEGREE OF COMPACTION $\geq 98\%$ MODIFIED PROCTOR DENSITY
6. EMBANKMENT
 - CBR OF EMBANKMENT MATERIAL ≥ 20 (TO BE APPROVED BY RDA)
 - DEGREE OF COMPACTION $\geq 98\%$ MODIFIED PROCTOR DENSITY
7. AWAY FROM EMBANKMENT
 - CBR OF TYPE 1 MATERIAL ≥ 20 (TO BE APPROVED BY NWS&DB)
 - DEGREE OF COMPACTION $\geq 98\%$ MODIFIED PROCTOR DENSITY
 - EXCAVATED SOIL CAN BE USED AS BACK FILLING MATERIAL IF THEY
- * CONFORM TO THE REQUIRED SPECIFICATION

Appendix - 2

REINSTATEMENT OF TRENCHES ON CARRIAGEWAY

BACK FILLING & PERMANENT REINSTATEMENT OF CARRIAGEWAY & AT LOCATIONS OF BY ROAD CROSSING



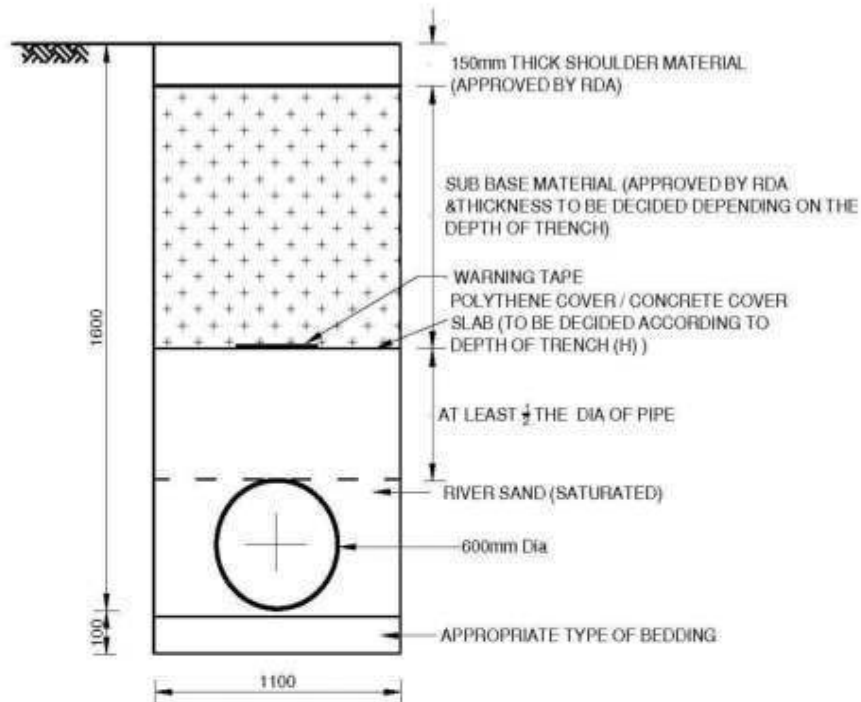
NOTE:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. PRIME COAT AND SAND SEAL
 - BINDER MATERIAL TO BE USED FOR PRIMING - CSS-1
 - RATE OF SPARED OF BINDER IN PRIME COAT - 1litre/m²
 - BINDER MATERIAL TO BE USED FOR SAND SEAL - CRS-1
 - RATE OF SPARED OF BINDER IN SAND SEAL - 1litre/m²
3. DENSE GRADED AGGREGATE BASE COURSE
 - DEGREE OF COMPACTION $\geq 98\%$ MODIFIED PROCTOR DENSITY
4. SUB BASE
 - CBR OF SUBBASE MATERIAL ≥ 20 (TO BE APPROVED BY RDA)
 - DEGREE OF COMPACTION $\geq 98\%$ MODIFIED PROCTOR DENSITY
5. SHOULDER
 - CBR OF SHOULDER MATERIAL ≥ 20 (TO BE APPROVED BY RDA)
 - DEGREE OF COMPACTION $\geq 98\%$ MODIFIED PROCTOR DENSITY
6. EMBANKMENT
 - CBR OF EMBANKMENT MATERIAL ≥ 20 (TO BE APPROVED BY RDA)
 - DEGREE OF COMPACTION $\geq 98\%$ MODIFIED PROCTOR DENSITY
7. AWAY FROM EMBANKMENT
 - CBR OF TYPE 1 MATERIAL ≥ 20 (TO BE APPROVED BY NWS&DB)
 - DEGREE OF COMPACTION $\geq 98\%$ MODIFIED PROCTOR DENSITY
 - EXCAVATED SOIL CAN BE USED AS BACK FILLING MATERIAL IF THEY
 - CONFORM TO THE REQUIRED SPECIFICATION

Appendix - 3

REINSTATEMENT OF TRENCHES ON EARTH SHOULDER

BACK FILLING & TEMPORARY/ PERMANENT REINSTATEMENT OF EARTH SHOULDER



NOTE:

1. ALL DIMENSIONS ARE IN MILLIMETRES.

2. PRIME COAT AND SAND SEAL

- BINDER MATERIAL TO BE USED FOR PRIMING - CSS-1
- RATE OF SPARED OF BINDER IN PRIME COAT - 1litre/m²
- BINDER MATERIAL TO BE USED FOR SAND SEAL - CRS-1
- RATE OF SPARED OF BINDER IN SAND SEAL - 1litre/m²

3. DENSE GRADED AGGREGATE BASE COURSE

- DEGREE OF COMPACTION $\geq 98\%$ MODIFIED PROCTOR DENSITY

4. SUB BASE

- CBR OF SUBBASE MATERIAL ≥ 20 (TO BE APPROVED BY RDA)
- DEGREE OF COMPACTION $\geq 98\%$ MODIFIED PROCTOR DENSITY

5. SHOULDER

- CBR OF SHOULDER MATERIAL ≥ 20 (TO BE APPROVED BY RDA)
- DEGREE OF COMPACTION $\geq 98\%$ MODIFIED PROCTOR DENSITY

6. EMBANKMENT

- CBR OF EMBANKMENT MATERIAL ≥ 20 (TO BE APPROVED BY RDA)
- DEGREE OF COMPACTION $\geq 98\%$ MODIFIED PROCTOR DENSITY

7. AWAY FROM EMBANKMENT

- CBR OF TYPE 1 MATERIAL ≥ 20 (TO BE APPROVED BY NWS&DB)
- DEGREE OF COMPACTION $\geq 98\%$ MODIFIED PROCTOR DENSITY

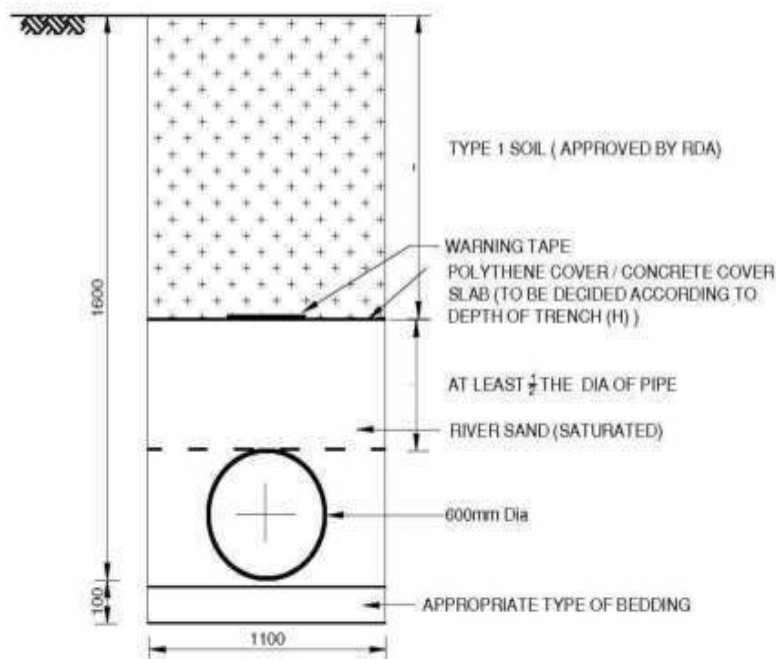
- EXCAVATED SOIL CAN BE USED AS BACK FILLING MATERIAL IF THEY

- CONFORM TO THE REQUIRED SPECIFICATION

Appendix - 4

REINSTATEMENT OF TRENCHES ON EMBANKMENT

BACK FILLING & TEMPORARY/ PERMANENT REINSTATEMENT OF EMBANKMENT



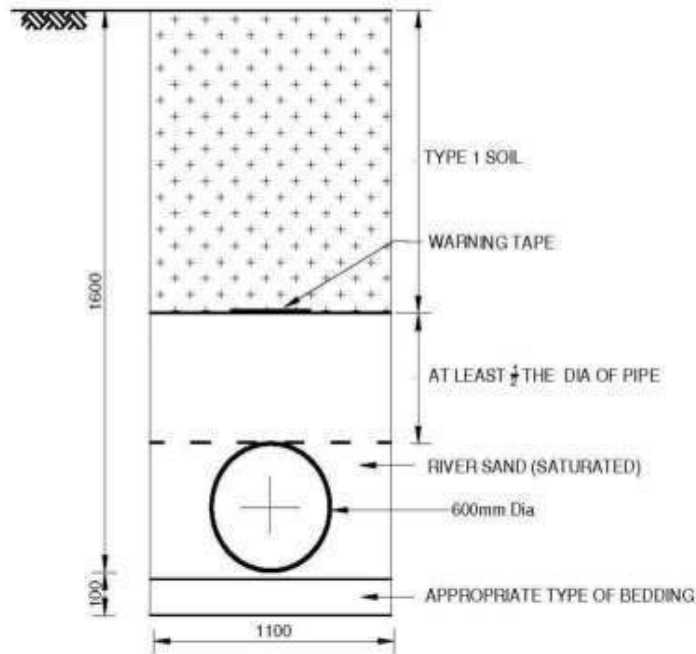
NOTE:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. PRIME COAT AND SAND SEAL
 - BINDER MATERIAL TO BE USED FOR PRIMING - CSS-1
 - RATE OF SPARED OF BINDER IN PRIME COAT - 1litre/m²
 - BINDER MATERIAL TO BE USED FOR SAND SEAL - CRS-1
 - RATE OF SPARED OF BINDER IN SAND SEAL - 1litre/m²
3. DENSE GRADED AGGREGATE BASE COURSE
 - DEGREE OF COMPACTION $\geq 98\%$ MODIFIED PROCTOR DENSITY
4. SUB BASE
 - CBR OF SUBBASE MATERIAL ≥ 20 (TO BE APPROVED BY RDA)
 - DEGREE OF COMPACTION $\geq 98\%$ MODIFIED PROCTOR DENSITY
5. SHOULDER
 - CBR OF SHOULDER MATERIAL ≥ 20 (TO BE APPROVED BY RDA)
 - DEGREE OF COMPACTION $\geq 98\%$ MODIFIED PROCTOR DENSITY
6. EMBANKMENT
 - CBR OF EMBANKMENT MATERIAL ≥ 20 (TO BE APPROVED BY RDA)
 - DEGREE OF COMPACTION $\geq 98\%$ MODIFIED PROCTOR DENSITY
7. AWAY FROM EMBANKMENT
 - CBR OF TYPE 1 MATERIAL ≥ 20 (TO BE APPROVED BY NWS&DB)
 - DEGREE OF COMPACTION $\geq 98\%$ MODIFIED PROCTOR DENSITY
 - EXCAVATED SOIL CAN BE USED AS BACK FILLING MATERIAL IF THEY
 - CONFORM TO THE REQUIRED SPECIFICATION

REINSTATEMENT OF TRENCHES ON AWAY FROM THE ROAD

BACK FILLING & TEMPORARY/ PERMANENT REINSTATEMENT

PIPE AWAY FROM THE ROAD EMBANKMENT



NOTE:

1. ALL DIMENSIONS ARE IN MILLIMETRES.

2. PRIME COAT AND SAND SEAL

- BINDER MATERIAL TO BE USED FOR PRIMING - CSS-1
- RATE OF SPARED OF BINDER IN PRIME COAT - 1liters/m²
- BINDER MATERIAL TO BE USED FOR SAND SEAL - CRS-1
- RATE OF SPARED OF BINDER IN SAND SEAL - 1liters/m²

3. DENSE GRADED AGGREGATE BASE COURSE

- DEGREE OF COMPACTION \geq 98% MODIFIED PROCTOR DENSITY

4. SUB BASE

- CBR OF SUBBASE MATERIAL \geq 20 (TO BE APPROVED BY RDA)
- DEGREE OF COMPACTION \geq 98% MODIFIED PROCTOR DENSITY

5. SHOULDER

- CBR OF SHOULDER MATERIAL \geq 20 (TO BE APPROVED BY RDA)
- DEGREE OF COMPACTION \geq 98% MODIFIED PROCTOR DENSITY

6. EMBANKMENT

- CBR OF EMBANKMENT MATERIAL \geq 20 (TO BE APPROVED BY RDA)
- DEGREE OF COMPACTION \geq 98% MODIFIED PROCTOR DENSITY

7. AWAY FROM EMBANKMENT

- CBR OF TYPE 1 MATERIAL \geq 20 (TO BE APPROVED BY NWS&DB)
- DEGREE OF COMPACTION \geq 98% MODIFIED PROCTOR DENSITY

- EXCAVATED SOIL CAN BE USED AS BACK FILLING MATERIAL IF THEY

- CONFORM TO THE REQUIRED SPECIFICATION

Annex – 5: Public Consultation and Disclosure Information

S.No	Date	Location	Subject of Meeting	Male	Female	Total
1	25.06.2020	Divisional Secretariat - Jaffna	Awareness on Jaffna City Distribution Network Pipe laying works with Grama Niladharis	36	22	60
2	25.06.2020	Divisional Secretariat - Jaffna	Awareness on Jaffna City Distribution Network Pipe laying works with Samurdhi Officials	12	16	28
3	26.06.2020	Divisional Secretariat Jaffna	Awareness on Jaffna City Distribution Network Pipe laying works with Community members such as RDS/WRDS/Farmer 's organization, fisheries Society and Community Centers, Sports Club	35	45	80
4	26.06.2020	Divisional Secretariat Jaffna	Awareness on Jaffna City Distribution Network Pipe laying works with Trade union people and the shop owners from Jaffna town area	27	03	30

Objective and the Output of the Meeting

Project basic information and the details on Jaffna City Distribution Network has been discussed by the project officials to the participants through PPT presentations and explained the benefits of the Jaffna City Distribution Network to the society and the implementing water supply facilities. Further, explanation was given regarding the pipe laying area, exact location of the pipe laying works, Reinstatements of roads and the coverage area. Also explained the ADB's safeguard policies to understand the public. Build awareness on measures to save water conservation, ground water recharge, etc.; and proper solid waste management and the need to keep public spaces and water bodies clean. In addition to this, details given to the public regarding the Desalination Plant and its operation process.

Community are the key stakeholders and they were informed about the pipe laying programme to be implemented in coming months by the NCC Ltd contractors. It was decided during the meeting to keep the complaint box each GN Division to make the public easily submit their grievances. Also the contact details of the project office issued to the public for easy accessing.

Officers and the community as well as the business peoples expressed their concern on unavailability water supply and the well pollution with in Jaffna City area. They welcoming the initiated project activity and wished to provide their support and cooperation for the pipe laying works. It was informed to the trade union people that, the pipe laying activities will be implemented without disturbing the business activities.

Annex – 6: Photographs of Community Consultations



Meeting with Grama Niladhari on 25th June 2020 at 10.00 am at Jaffna DS Division



Meeting with Samurdhi Officers on 25th June 2020 at 11.00 am at Jaffna DS Division



Meeting with Community on 26th June 2020 at 10.00 am at Jaffna DS Division



Meeting with Jaffna trade union and business people on 26th June 2020 at 10.00 am at Jaffna






Project Director's Office
Jaffna Kilinochchi Water Supply and Sanitation Project
Attendance Sheet

Time : 10.00AM

Date : 25.06.2020

Subject : Discussion on Jaffna City Distribution Network

Venue : Jaffna Divisional Secretariat Office

No	Officer's Name	Designation & Institution	Contact No	Signature
1	Mr. S. Sutharsan	Divisional Secretary, Jaffna.	0773548347	
2	Mrs. S. Malathy	DPD - JKWSSP	0772559685	S. Malathy
3	Mrs. S. Thanuja	SE - JKWSSP	0777314990	P. Ranga
4	S. SIVAKUMARAN	ADP	0779604057	S. S. 2
5	C.V. John Calistus	GIN - J/80	0775894709	
6	Mrs. R. Kalalaxy	GIN - J/95	0779190240	
7	Mrs. G. Tharaka	GIN - J/65	077-3673309	Tharaka
8	Mrs. S.A. Mary Jeyanthra	GIN - J/70	076 7098172	
9	Mrs. S. Thayalan	DO - J/88	0774735195	T. Supreth
10	Mrs. U. Jayakirija	DO J/67	0771513711	
11	MRS. V. VANITHA	DO J/78	0771547767	V. Vanitha
12	S. Coury	DO J/75	0779687197	S. Coury
13	S. Chayathir	DO J/63	0776405501	S. Chayathir
14	Mrs. T. Pirathhepa	GTS J/82	0773946825	P. Pirathhepa
15	R. Karthika	DO J/66	0770232922	R. Karthika

Project Director's Office
Jaffna Kilinochchi Water Supply and Sanitation Project
Attendance Sheet

Time : 10.00AM

Date : 25.06.2020

Subject : Discussion on Jaffna City Distribution Network

Venue : Jaffna Divisional Secretariat Office

No	Officer's Name	Designation & Institution	Contact No	Signature
16	G. Tharsiny	DO - J/83	0777149139	a. Jay
17	V. Thavaraby	DO J/71	0778405832	V. Keny
18	YALING. T	DO J/84	0779672441	Yus
19	V. Sutharsana	DO J/65	0776590389	v. S. Hs -
20	Ranchini A.	DO J/74	0779389629	Ran. A.
21	V. Rahinee	DO J/69	0775823893	V. Rahne
22	D. Varatharashan	DO J/77	0775720864	D. Varatharashan
23	Mrs. Jude Alphonse	D.O. J/73	0775255767	S. m. J. Alphonse
24	Mrs Sugantha Sathesaran	DO J/70	0777463384	S. Sugantha
25	Mrs Sripriya Christy Niranjana	DO J/64	0778050927	S. Sripriya
26	Mrs Kandiah - Sivajini	DO J/82	0776622158	K. Sivajini
27	Mrs Sutharsini Mathiruban	DO J/80	0774617078	M. Sutharsini
28	Mrs. Jalaia Jeyasulthan	DO- J/76	0773611449	J. Jalaia
29	Miss Suneetha Therathasan	DO J/68	0775079056	S. Suneetha
30	Mrs. Kajaroban Rajeevana	DO J/68	0772220602	K. Rajeevana

Project Director's Office
Jaffna Kilinochchi Water Supply and Sanitation Project
Attendance Sheet

Time : 10.00AM

Date : 25.06.2020

Subject : Discussion on Jaffna City Distribution Network

Venue : Jaffna Divisional Secretariat Office

No	Officer's Name	Designation & Institution	Contact No	Signature
31	Anpala Dilanikumari	DO Land use policy planning		A. Aslam k
32	mrs. Subathas kamsa	DO (Land)	0770859579	S. Kanchan.
33	S. ELAMATHI	CMSO (Land)	0768045754	See
34	L. Miquiziluxy	UN.	0771791850	E. J.
35	S. Asokan.	D.S. office, G.S.	0772 677224	S. J.
36	G. LAVARUBAN.	D.S office. G.N.	0776005610.	G. J.
37	R. Salfery	G.N J/68	0774438864	Any.
38	S. Ramanan.	G.N J/66	0768605691	SK
39	S. RAJEEVAN	G.N. J/71	0777246235	Any.
40	A. Saravanan	G.N. J/63, J/61	0772478782	Any.
41	H. Senthana	G.N. J/61, J/62	0772845199	Any.
42	N. Ramanapirakash	G.N. J/61	0774063310	Any.
43	S. Gnanasekaram	G.O - J/73, J/79	0774949703	Any.
44	S. Rukunash	G.N J/67	0777361236	S. J.
45	K. Mayasom.	DO - DS office Jaffna	0773392777	Any.

Project Director's Office
Jaffna Kilinochchi Water Supply and Sanitation Project
Attendance Sheet

Time : 10.00AM

Date : 25.06.2020

Subject : Discussion on Jaffna City Distribution Network

Venue : Jaffna Divisional Secretariat Office

No	Officer's Name	Designation & Institution	Contact No	Signature
46	R. Jegan	DO J/85	0764012977	R. Jegan
47	P. Thavarasa	DO J/86	0773437418	P. Thavarasa
48	P. Donbosco	DO (J/87)	0774445492	P. Donbosco
49	M. Johnson	DO (J/87)	0765394356	M. Johnson
50	J. Sutharasan	GIS (J/87)	0775230419	J. Sutharasan
51	Mrs. S. Pakeerathan	GIS (J/88)	0776534426	Mrs. S. Pakeerathan
52	Mrs. M. Jude Jayakumar	GIS J/77	0779412282	Mrs. M. Jude Jayakumar
53	M. Fabiana	GIS J/70	0763977912	M. Fabiana
54	T. Mary Tharshana	GIS J/74	0766114979	T. Mary Tharshana
55	R. Ramesan	DO J/61	0777067478	R. Ramesan
56	J. Pathumathan	GIS (Admin)	0778693574	J. Pathumathan
57	J. Sobika	DO (Acq)	0775585265	J. Sobika
58	S. Vijitha	DO (I. Acq)	0770396779	S. Vijitha
59	I. Balakumary	Sociologist	0778062620	I. Balakumary
60	T. Ravekul	Skill labour.	076-9150723	T. Ravekul

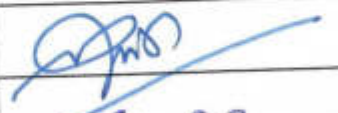
Project Director's Office
Jaffna Kilinochchi Water Supply and Sanitation Project
Attendance Sheet

Time : 11.00AM

Date : 25.06.2020

Subject : Discussion on Jaffna City Distribution Network

Venue : Jaffna Divisional Secretariat Office

No	Officer's Name	Designation & Institution	Contact No	Signature
1	S. Sutharsan	Divisional Secretary, Jaffna.	077 354 8347	
2	S. Sivakumaran	ADP, Jaffna DSO	0779604057	S. S2
3	S. Malathy	DPD - JKWSSP	077 255 9685	S. Malathy
4	S. Thanyia	Senior Engineer - JKWSSP	077 7314990	P. Duni
5	I. Balakumary	Soilologist - JKWSSP.	0778063670	Balakumary
6	S. Jayaloka	S.D.O	0771887463	Jayaloka
7	R. Rathana	S.D.O	0773065794	R. Rathana
8	T. C. Babigola	SD.O	0753231010	T. C.
9	S. Joisy	SD.O	0772109879	S. Joisy
10	J. Subasini	S.D.O	0778331145	J. Subasini
11	K. Kalyani	S.D.O.	0776645529	K. Kalyani
12	G. Vinushiga	S.D.O	0402005981	G. Vinushiga
13	P. Chandramathy	S.D.O (Zonal Assistant)	0768530439	P. Chandramathy
14	M. Sarenka	S.D.O	0771695735	M. Sarenka
15	R. Anparasai	S.D.O	0777741376	R. Anparasai

Project Director's Office
Jaffna Kilinochchi Water Supply and Sanitation Project
Attendance Sheet

Time : 11.00AM

Date : 25.06.2020

Subject : Discussion on Jaffna City Distribution Network

Venue : Jaffna Divisional Secretariat Office

No	Officer's Name	Designation & Institution	Contact No	Signature
16	Mrs. M. Edwin Jeyakumar	S.D.O J/85	077 2223981	Sntin
17	Mrs. A. Suntharabavany	S.D.O J/66	0779869626	Asy
18	S. ELAMATHI	CMSO - (Land)	0768045754	Sae
19	Mrs. Vijitha Sureskumar	DO (Land Acq)	0770396779	T.V. J
20	Mrs. V. Sobika	DO (Land Acq)	0775585265	J
21	Mrs. V. Arivavasi	Samurdhi Managar	0774047281	S
22	S. Baskaran	S.D.O J/81	0779114440	S
23	IC. Jekatheesan	S.D.O J/83	0713055933	V. K. J
24	B. Edipmangalam	S.D.O J/69	0768548156	S
25	S. J. Niranjiv	S.D.O J/75	0776647974	S. J. Niranjiv
26	K. Manjuman	DO	0773392777	Manj
27	Don. Donwadee -	S.D.O J/81	0779523551	Donwadee
28	an. Rajanigan	S.D.O J/67	077-7660253	V. Rajanigan
29	D. Judson	S.D.O J/62	0772866610	CJ
30	G. Ghanashanthan	S.D.O J/68	0770489441	G. Ghanashanthan





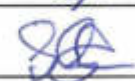

Project Director's Office
Jaffna Kilinochchi Water Supply and Sanitation Project
Attendance Sheet

Date : 25.06.2020

Time : 11.00AM

Subject : Discussion on Jaffna City Distribution Network

Venue : Jaffna Divisional Secretariat Office

No	Officer's Name	Designation & Institution	Contact No	Signature
31	K. Neroshanan Jh	S.D.O J/79, J/80	0769952499.	
32	N. Manoharan	S.D.O J/77	0799235789	N. Manoharan
33	R. Kani Karan	S.D.O J/88, J/86	08832194825	R. Kani Karan
34	P. Vaseekaran .	S.D.O J/82	0776120395	
35	T. Prashanth	S.D.O	076-9150723	T. Prashanth
36	M. Nishanthan	S.D.O	076-4202798	M. Nishanthan
37	T. Sutherson	S.D.O	077 8286138	
38	S. Therasith	S.D.O.	0770342669	S. Therasith
39	S. Gayathini	S.D.O	0775525812	
40	J. Shanthi	S.D.O	0775000415	J. Shanthi
41	K. Kuganan.	S.D.O	075427355	K. Kuganan.
42	S. Senthil Kumar	S.D.O	0776145733	
43	A. Kobig	S.D.O	077145356	
44	I. Abiraini	S.D.O	0779760586	I. Abiraini
45	K. Amath Kumar	S.D.O	0766524897	K. Amath Kumar



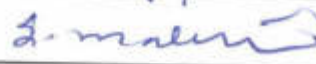


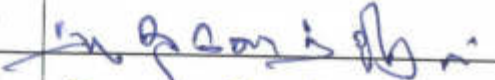
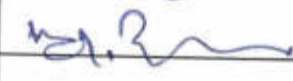

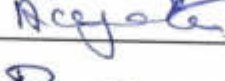

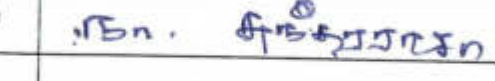
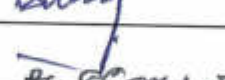
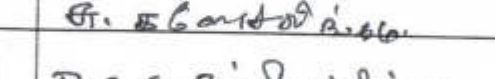
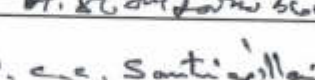
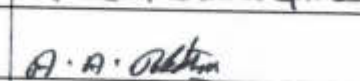
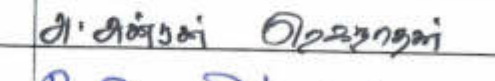




Project Director's Office
Jaffna Kilinochchi Water Supply and Sanitation Project
Attendance Sheet

Date : 26.06.2020

Time : 1000AM

Subject : Discussion on Jaffna City Distribution Network

Venue : Jaffna Divisional Secretariat Office

No	Officer's Name	Designation & Institution	Contact No	Signature
1	Mr. S. Sutharshan	Divisional Secretary, Jaffna	0773548347	
2	Eng. T. Barathithasan	PD - JKWSSP	0777871235	
3	Eng. S. Malathy	DPD - JKWSSP	0772559685	
4	Eng. S. Thanuja	SE - JKWSSP	0777314990	
5	Mrs. I. Balakumari	Sociologist - JKWSSP	0778063670	
6		R. D. S.	0776146253	
7	C. M. Senthil	J/G.	0770260404	
8	A. RAJANAYAGAN	RDS President	0773101874	
9	M. M. RAZEEN	R. D. S.	07712480411	
10		Housewife	0778702260	
11		Housewife	0779831899	
12	D. C. C. Santigilla	Housewife	0765457664	
13		Housewife	0773825682	
14	P. D. Senthil	D. A. 2. Senthil	0773320899	
15		Housewife	0770879039	

Project Director's Office
Jaffna Kilinochchi Water Supply and Sanitation Project
Attendance Sheet

Date : 26.06.2020

Time : 10.00AM

Subject : Discussion on Jaffna City Distribution Network

Venue : Jaffna Divisional Secretariat Office

No	Officer's Name	Designation & Institution	Contact No	Signature
16	S. Ramesh	General Secy J/76	0963228332	S.R.
17	V. Chandany	17/2 Paluwang V. Chandany	0212227377 J/76	V. Chandany
18	MR K. KANAPATHY	J/77 MARUTHAN E.S. PRESIDENT	0778685678	K.K.
19	K. Kalithaswamy	Vice President, Kadday KE	0773203138	K.K.
20	J.J. PREM KUMAR	CENTRAL EAST ROAD GURUNGAR	0767929288	J.P.K.
21	M.A. Jeyaratnam	Elders Union - J/74	0773562312	M.A. Jeyaratnam
22	P. A. Julian	Elders Union - J/74	0777498865	P.A. Julian
23	S. ELAMATH	MSO (Kand) DSO office	0768045754	S.E.
24	A. Dilanikumari	Do Land use policy planning Dept.		A. Dilanikumari
25	T. Mangalagowri	Gr. T (Jaffna DSO office)	0771999541	T. Mangalagowri
26	T. Anitha	Gr. T "	0775281643	T. Anitha
27	M. Philip	M. Philip	0768446582	M. Philip
28	M.P. Camille	D.S. Office. 2 J/76.	0777-452179	M.P. Camille
29	B.S.M. Sharafudheen	R.D.S. President - J/87	0776590632	B.S.M. Sharafudheen
30	G.C. Dhanasekaran	4/5 Dhanasekaran J/63	0777878467	G.C. Dhanasekaran

Project Director's Office
Jaffna Kinohochchi Water Supply and Sanitation Project
Attendance Sheet

Date : 26.06.2020

Time : 10.00AM

Subject : Discussion on Jaffna City Distribution Network

Venue : Jaffna Divisional Secretariat Office

No	Officer's Name	Designation & Institution	Contact No	Signature
31	N. பரமசிவன்	30/3 கிளாமாண்டி வீதி J/63	0777 118 320	Dr. R. R. R. R.
32	ச. பெருந்தொண்டை	17/3 தென்மேல் 16 தென்மேல் பி.பி.பி.	077 88 41 850	Dr. R. R. R. R.
33	அ. அ. அ. அ. அ. அ.	20. B. A. பி.பி.பி. பி.பி.பி.	077 37 37 516	Dr. R. R. R. R.
34	அ. அ. அ. அ. அ. அ.	19. அ. அ. அ. அ. அ. அ.	077 39 51 589	Dr. R. R. R. R.
35	அ. அ. அ. அ. அ. அ.	533 அ. அ. அ. அ. அ. அ.	077 88 25 179	Dr. R. R. R. R.
36	அ. அ. அ. அ. அ. அ.	84. அ. அ. அ. அ. அ. அ.	077 82 47 922	Dr. R. R. R. R.
37	I. L. NIRA22	R D S 7/87	077 06 73 66	Dr. R. R. R. R.
38	அ. அ. அ. அ. அ. அ.	687/30 அ. அ. அ. அ. அ. அ.	077 54 50 908	Dr. R. R. R. R.
39	அ. அ. அ. அ. அ. அ.	72/7, அ. அ. அ. அ. அ. அ.	076 80 41 583	Dr. R. R. R. R.
40	அ. அ. அ. அ. அ. அ.	143/1, அ. அ. அ. அ. அ. அ.	077 64 57 839	Dr. R. R. R. R.
41	அ. அ. அ. அ. அ. அ.	181, அ. அ. அ. அ. அ. அ.	077 95 06 871	Dr. R. R. R. R.
42	V. MATHARASAR	17/2 Mathurapalayam	077 10 41 620	Dr. R. R. R. R.
43	அ. அ. அ. அ. அ. அ.	432/7 - அ. அ. அ. அ. அ. அ.	077 64 45 999	Dr. R. R. R. R.
44	V. அ. அ. அ. அ. அ.	அ. அ. அ. அ. அ. அ.	077 66 81 702	Dr. R. R. R. R.
45	அ. அ. அ. அ. அ. அ.	82/4 2 அ. அ. அ. அ. அ. அ.	077 69 60 327	Dr. R. R. R. R.


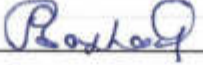




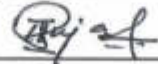








Project Director's Office
Jaffna Kilinochchi Water Supply and Sanitation Project
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Venue : Jaffna Divisional Secretariat Office

No	Officer's Name	Designation & Institution	Contact No	Signature
46	L.C. Jegadeesan	M.M.C Jaffna	0776327624	
47	V. Sathirathana	J/80 WRDS President	0776075842	
48	L. Suresh	J/80 WRDS Sec	0779098728	
49	R. Manonmani	J/70 WRDS, President	0773725792	
50	N. Dilani	J/70 WRDS, Treasurer	0763641019	
51	S. Priyatharsini	J/61 WRDS President	0768617196	
52	M.A.M.F. Siyana	JWDC - President	0778813037	
53	M. Colastika	J/73 WRDS	0778445069	
54	V. Sobika	DO DSO office Jaffna	0775585265	
55	S. Vijitha	DO PS office Jaffna	0770396779	
56	F. Hragu	J/80, WRDS	0778022284	
57	A. Anuradha	M.M.C Jaffna	077552814	
58	K. Sindhura	"	-	
59	K. Sindhura	"	0773377812	
60	M. Elayaratne	J/80 WRDS Sec	0212223060	

Project Director's Office
Jaffna Kilinochchi Water Supply and Sanitation Project
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Venue : Jaffna Divisional Secretariat Office

No	Officer's Name	Designation & Institution	Contact No	Signature
61	U. Maheswary	355/4 KOPAL LANE	0776337934	U. Mahy
62	C. Mangulather	8/17 Temple Rd Lane. JAFFNA	0779587225	M. Maheswary
63	Y. W. Jeevanayam	T.P./J/5 Division. Jaffna	0775300493	Y. W. J.
64	R. G. BROTHERS	215 HOSPITAL ROAD SOUTH	0779548554	m. S.
65	A. Jeevanayam	J/71, 6452 LIAISON ST. JAFFNA	077 1388 711	A. J.
66	S. Prady Babaprasanna	J/6 ELLIOT	0773834014	S. Prady
67	S. Daisy Mary	S.D.O	0776621752	S. Daisy
68	A. SITHU	J/62 Opp. to J. B. P.	0779525328	A. S.
69	C. CHRISTOPHER	27/1 6th cross street Jaffna	0770261626	C. C.
70	A. M. Ravindran	President - Kalaichudar Community Centre Kiyathala	0776589391	A. M.
71	R. Suganthini	J/64 Jaffna Konig's Thoothmar	0772851908	R. Suganthini
72	M. Gnanakanthan	J/65 RDS Tession	0764390087	M. G.
73	G. Ramanathan	" " " "	0772212363	G. R.
74	S. Gayathri	" " "	0775521821	S. G.
75	T. Tharsha	" " "	0776908884	T. Tharsha

Project Director's Office
Jaffna Kilinochchi Water Supply and Sanitation Project
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No	Officer's Name	Designation & Institution	Contact No	Signature
76	Б. ලක්ෂ්මන්	J/81 මහලය	0760426048	c. lachari.
77	Б. මනෝරාජ්	J/65. WEDS.	0760807667	B. gnanth
78	මා. ලක්ෂ්මන්	J/67 නිලධාරී	0774338416	මා. ලක්ෂ්මන්
79	K. මොරි මහා	J/68 මහලය	0775003881	k.m. m. m.
80	මා. ජයරත්න	J/86 මහලය	0772581198	v. prospectus
81	T. K. m.	7/83	0769150723	T. K. m.
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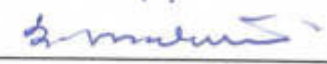



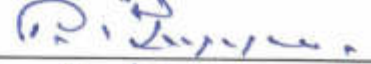
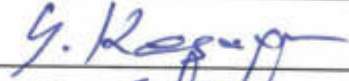
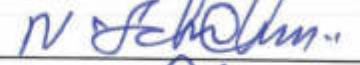

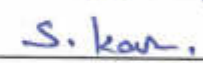
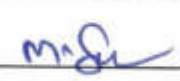



Project Director's Office
Jaffna Kiinnochchi Water Supply and Sanitation Project
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Venue : Jaffna Divisional Secretariat Office

No	Officer's Name	Designation & Institution	Contact No	Signature
1	Mr. S. Sutharshan	Divisional Secretary, Jaffna	0773548347	
2	Eng. T. Barathithasan	PD - JKWSSP	0777871235	
3	Eng. S. Malathy	DPD - JKWSSP	0772559685	
4	Eng. S. Thanuja	SE - JKWSSP	0777314990	
5	Mrs. I. Balakumari	Sociologist - JKWSSP	0778063670	
6	R. JANAKUMAR	PRESIDENT J.C.C	0773573147	
7	R. JEYASEGARAN	VICE PRESIDENT J.C.C	0776510696	
8	S. Kesavan	Secretary	0777238629	
9	N. Jendhami	J.C.C.	07774836923	
10	N. Thayapara.	Jaffna District Council	0778695063	
11	S. Kalan.	VV Mont	0761147016	
12	R.G BROTHERS	203 HOSPITAL RD JAFFNA	0779548554	
13	J. Jayaram	Jaffna, Gracey Bldg.	0776544500	
14	P.D. Kewien.	Kartheesam Hw, Sinakadu.	0774006399	
15	K. Kantharuban	Kanthan. Kalnalam	0772067757	

Project Director's Office
Jaffna Kilinochchi Water Supply and Sanitation Project
Attendance Sheet

Date : 26.06.2020

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Subject : Discussion on Jaffna City Distribution Network

Venue : Jaffna Divisional Secretariat Office

No	Officer's Name	Designation & Institution	Contact No	Signature
16	A. Geetha Shagila	Lingan Crean House Private	0777111410	A.G.
17	S. Thine San.	Vinayagar Stores	0772306787	S.T.
18	S. Sajeeran	Gm/Roler's Bake Mart	077131594	S.S.
19	A. Anton Sasikumar	Anto F/C	0771003285	A.A.
20	K. SARILAKSHMI	LALITHA TEX S.B NEW MARKET	0212225260	K.S.
21	S. Kalaiyakkar	Kajamugan H/W	0212222833	S.K.
22	P. P. Jeyaraj	P. P. Jeyaraj Bros' Ben's	0212223212	P.P.J.
23	T. Salgerna Chander of Commerce	CHAMBER OF COMMERCE ANDRA	0212222367	T.S.
24	T. MURUGAN	ANDRA	0772209527	T.M.
25	B. ERIC	HUMMUGRAM TEX	0212222740	B.E.
26	D. SACHIN KARAN ANNA	GLANARAS IGX ILI	0212222503	D.S.
27	S. Vijitha	Ds office ,Jaffna	0770396779	S.V.
28	V. Sobika	Ds office Jaffna	0775585265	V.S.
29	S. ELAMATHI	Ds office Jaffna cmso Lani	0768045754	S.E.
30	R. Ragulan	Rolex		R.R.

*Project Director's Office
Jaffna Kilinochchi Water Supply and Sanitation Project
Attendance Sheet*

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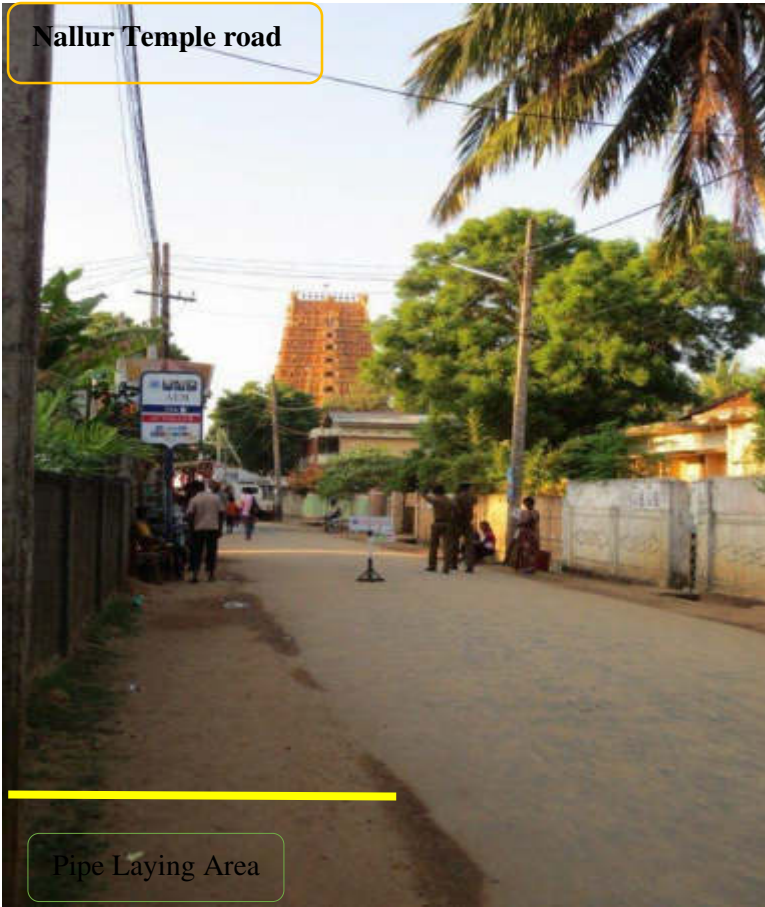
Venue : Jaffna Divisional Secretariat Office

No	Officer's Name	Designation & Institution	Contact No	Signature
31	அ. அருடிகொத்தன்	மீதுலாமி கார்ட்டியம்	021-222 3304	அ. அருடிகொத்தன்
32	சு. லக்ஷ்மீதன்	Skilled labour.	076-9150723	T. Rnd
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Annex – 7: Photographs Showing the Laying Section of the Road

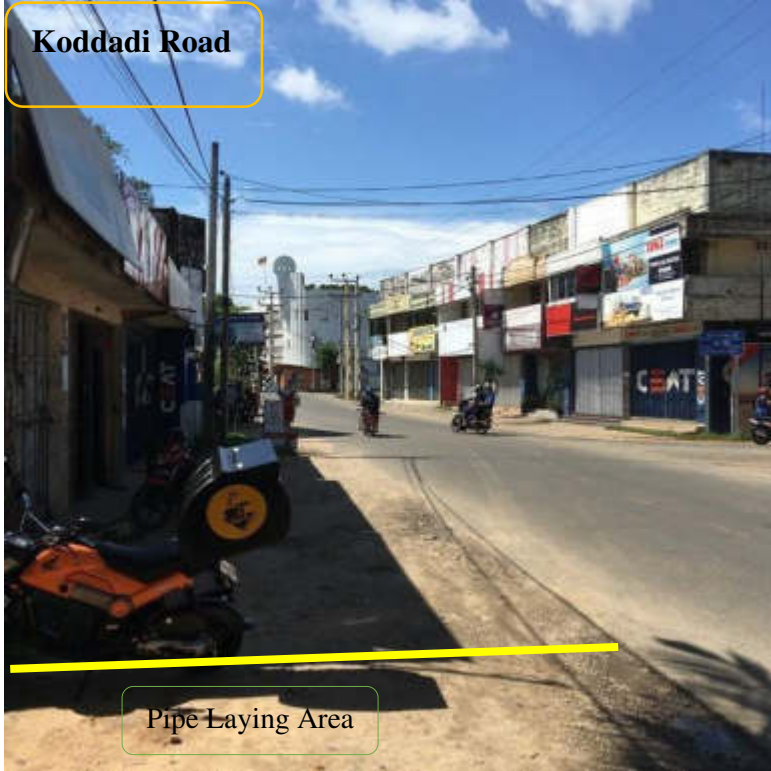


Nallur Temple road



Pipe Laying Area

Koddadi Road



Pipe Laying Area

Ariyalai By lane



Pipe Laying Area

Kantharmadam Road



Pipe Laying Area



Pommavali Road



Pipe Laying Area