

Environmental Monitoring Report

Semi-Annual Report no. 10
For the period covered July to December 2021
Project Numbers: 47381-002, 47381-005
March 2022

Sri Lanka: Mahaweli Water Security Investment Program – Tranches 1 and 2

North Western Province Canal Project (NWPCP)

Prepared by Ministry of Irrigation with the assistance of Program Management, Design and Supervision Consultant (Joint Venture Tractebel Engineering GmbH – GeoConsult ZT GmbH) for Democratic Socialist Republic of Sri Lanka and the Asian Development Bank.

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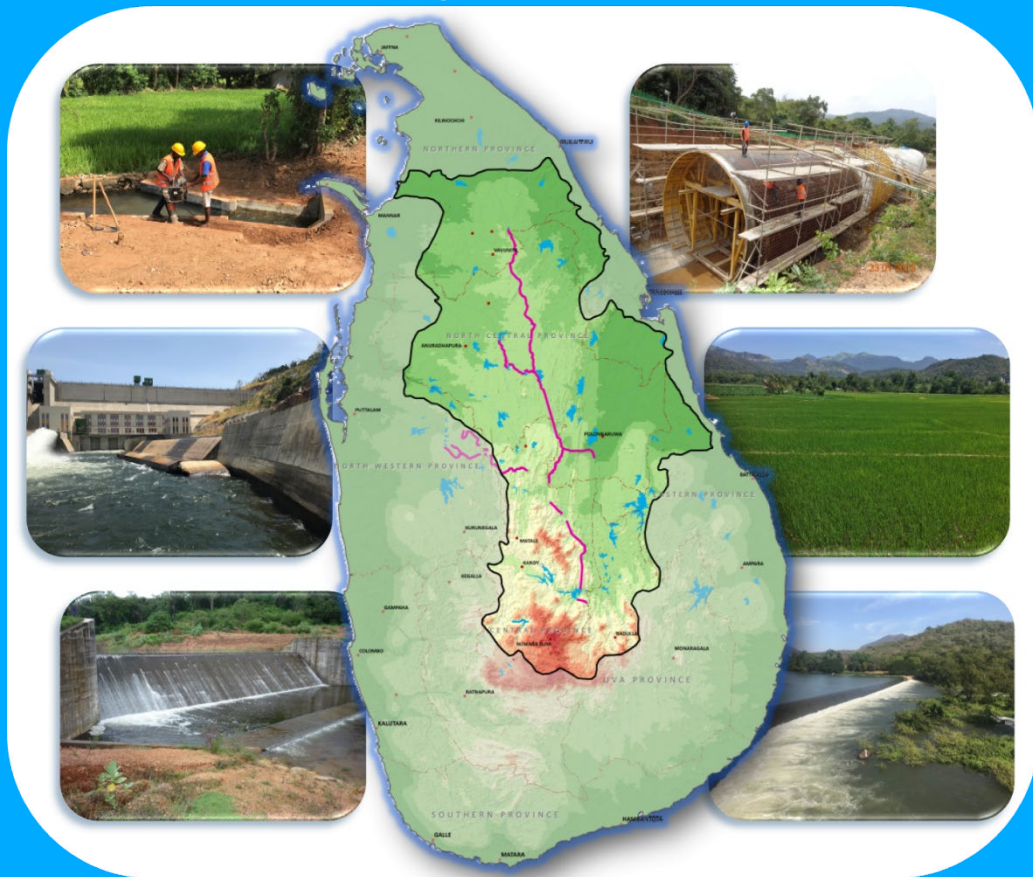
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Mahaweli Water Security Investment Program

Semi Annual Environmental Monitoring Report (SAEMR) No. 10 for North-Western Province Canal Project (NWPCP) (July to December 2021)



Ministry of Irrigation
Sri Lanka



March 2022
Final Report

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SAEMR No. 10 for NWPCP

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ABBREVIATIONS

ADB	Asian Development Bank
ABOP	Air Blast Over Pressure
BFO	Beat Forest Officer
CEA	Central Environment Authority
CSCEC	China State Construction Engineering Corporation
DWC	Department of Wildlife Conservation
EIR	Environment Incident reports
EO	Environment Officer
EPL	Environmental Protection License
FFPO	Fauna and Flora Protection Ordinance
H&S	Health and Safety
EHS	Environment, Health and Safety
EMS	Environment Monitoring Specialist
EIA	Environment Impact Assessment
E -NCR	Environment Non-conformity Record
EMP	Environment Management Plan
FD	Forest Department
GRM	Grievance Redress Mechanism
LHS	Left Hand Side
NWPCP	North Western Province Canal Project
NWS&DB	National Water Supply and Drainage Board
MS	Method Statement
O&M	Operation and Maintenance
PIU	Progress Implementation Unit

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1 INTRODUCTION

1.1 Scope of the Report

1. This Semi-Annual Environmental Monitoring Report (SAEMR) No. 10 is prepared to update reporting of the progress of North-Western Province Canal Project (NWPCP) with respect to environmental safeguard aspects for the period of July to December 2021, which fulfils Asian Development Bank (ADB) requirement to submit a SAEMR to ADB and Central Environmental Authority (CEA) for the “Category A” projects as documented in FAM¹ and EARF.²

2. The purpose of this report is to monitor whether the Project is implemented with due concern for environmental and social safeguards according to the ADB’s Safeguard Policy Statement (SPS) 2009, and specifically to ensure that these issues are adequately addressed in compliance with the requirements of ADB. Further, this report is to assess the progress with implementation of the program in complying with the approved Environmental Impact Assessment (EIA),³ including: (i) the Addendum to the EIA: NWPCP Tranche 1 packages (May 2017) and Environmental Management Plan (EMP) as per the stipulation No. 14.3 of the EIA approval No. 08/EIA/WATER/07/2012 issued by CEA of 23 February 2016; (ii) renewed approval by CEA on 11.03.19 by letter Ref. Ref.08/EIA/Water/07/2012 /Vol 3, which is valid until 23 February 2022; and (iii) approval for the addendum (Ref.08/EIA/Water/07/2012/Vol 2 dated 11 April 2018).

3. This SAEMR is prepared addressing the following aspects, based on the available information as at the end of the monitoring period (December 2021):

- (i) Background/ context of the monitoring report (information on the project, including physical progress of project activities, scope of monitoring report, reporting period, and the monitoring requirements including frequency of submission as agreed upon with ADB).
- (ii) Changes in project scope and adjusted safeguard measures.
- (iii) Environment Qualitative monitoring data.
- (iv) Monitoring results compared against previously established benchmarks and compliance status (e.g., obtaining necessary approvals for establishment of certain facilities, national environmental emission, and ambient standards and/or standards set out in the) Environmental Health and Safety (EHS) guidelines; timeliness and adequacy of environmental mitigation measures; and training, capacity building, etc.).
- (v) Records on disclosure of monitoring information to affected communities.
- (vi) Identification of key issues, or grievances from affected people, or recommendations for improvement.
- (vii) Proposed items of focus for the next reporting period and due date.

4. There were no major gaps were identified other than the general project induced impacts in the NWPCP area, and hence there was no requirement of preparing a “Corrective Action Plan” (CAP) during the reporting.

5. This SAEMR No.10 for NWPCP is prepared by the Environmental Specialist (ES) of the PMDSC based on the monthly monitoring and progress reports received from the Environmental

¹ Paragraph 60 of Facility Administration Manual (FAM), June 2015 prepared by MMDE.

² Paragraph 111 of Environmental Assessment Review Framework (EARF) November 2014 (updated in June 2017) by MMDE.

³ Environmental Impact Assessment Report (EIAR) dated June 2015 and approved by CEA on 31.03.2016.

Monitoring Specialist (EMS) of PMDSC and information extracted from the Contractors' monthly progress reports.

1.2 Overall Progress of NWPCP as of December 2021

6. There are three separate construction packages in the NWPCP that have been awarded so far. Two active packages where construction is ongoing – NWPCP-ICB-1 and NWPCP-ICB-2 are scheduled for completion in 2024 and 2023, respectively. NWPCP-NCB-1 is near completion. The summary of the NWPCP active packages is given in the **Table 1-1**.

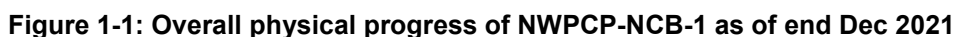
Table 1-1: Summary of ongoing construction packages in the NWPCP

Item	NWPCP-NCB-1	NWPCP-ICB-1	NWPCP-ICB-2
Contract No.	MMDE/MWSIP/ADB/NWPCP/NCB-1/3267-3268-SRI/NCB/2016/001	MMDE/MWSIP/ADB/NWPCP/ICB-1/3267-3268-SRI/ICB/2017/005	MMDE/MWSIP/ADB/NWPCP/NCB-1/3267-3268-SRI/NCB/2016/001
Contractor	M/s. NEM Construction (Pvt) Ltd.	CAMCE-QMCG JV	China State Engineering Corporation Ltd
Commencement Date	29 December 2016	31 March 2021	01 November 2018
Accepted Contract Amount	LKR 926,113,863.39 (incl. VAT)	LKR 10,776,758,949.81 (incl. VAT)	LKR 7,226,621,051.00 (incl. VAT)
Original Completion Date	27 December 2018	31 March 2024	06 May 2021
Updated Completion Date (determined Extension of Time to date)	28 May 2021 (EOT granted)	Unchanged to date	24 September 2022
Engineer's Forecast Completion Date	31 January 2022	Unchanged to date	31 July 2023

1.2.1 NWPCP-NCB-1

7. The scope of the NWPCP-NCB-1 package comprises improvements to the existing Wemedilla Left Bank Main Canal up to Nabadagahawatta (0 km to 5+250 km) and construction of a new sluice and tail canal (0 km to 0+600 km).

8. The contract period with awarded Extension of Time (EoT) expired on 28th May 2021. The overall construction physical progress was recorded as 98%. **Figure 1-1** explains the updated progress by end of reporting period (December 2021).



9. The baseline construction program for NWPCP-ICB-1 was approved in August 2021. Construction of Contractor's facilities continues, while construction work is in progress. Physical progress was recorded as 3.1% by end of December 2021. **Figure 1-2** explains the updated progress by end of reporting period, December 2021.

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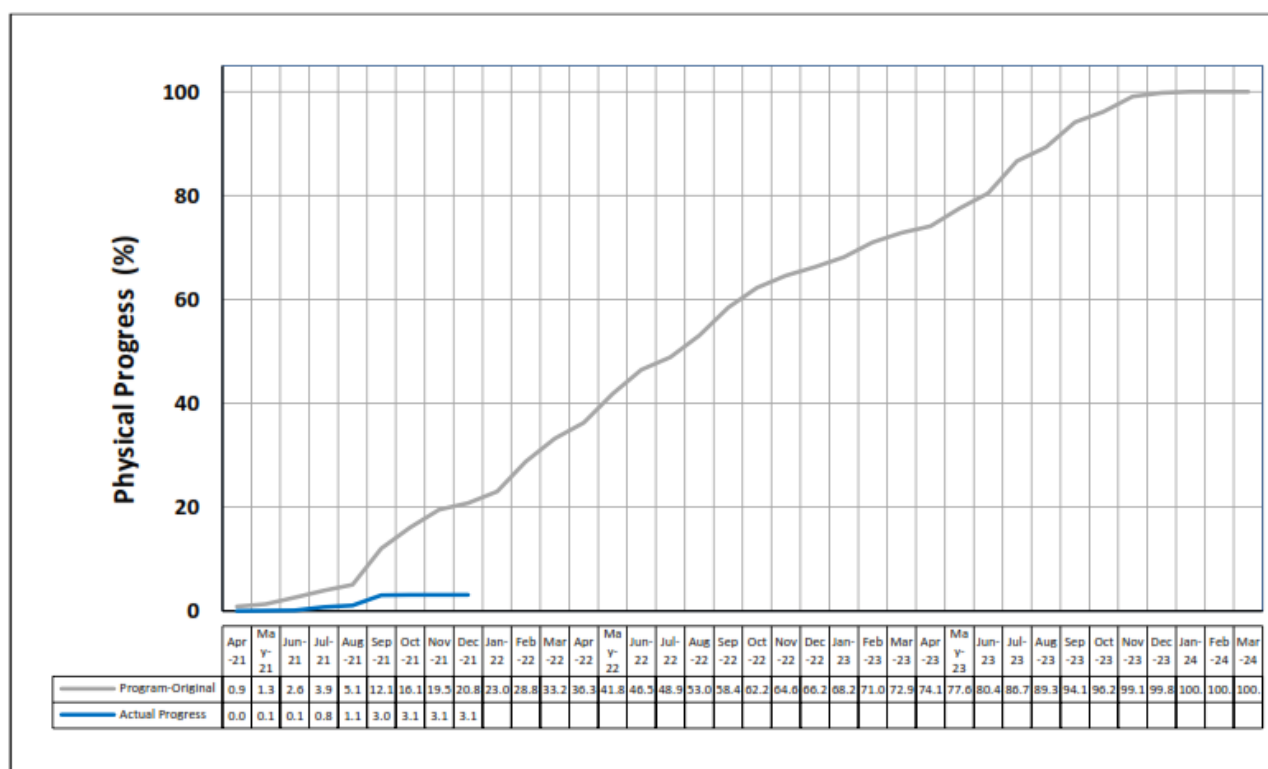


Figure 1-2: Overall physical progress of NWPCP-ICB-1 as of end December 2021

1.2.3 NWPCP-ICB-2

11. The NWPCP-ICB-2 package comprises the construction of the Main Canal from Nebadagahawatta to Mahakithula Reservoir inlet tunnel (from 5+250 km to 22+500 km), which anticipates a significant amount of ecological and social environmental impacts due to the environmental sensitivity of the project area. There are two sections, 18+503 km to 19+650 km and 20+700 km to 22+300 km, that fall within the Kahalla-Pallekele Wildlife Sanctuary under the jurisdiction of Fauna and Flora Protection Ordinance (FFPO). The land ownership is with the Forest Department (FD) as the canal trace traverses through Kahalla-Pallekele Forest Reserve, and the rest of the area traverses through rural residential, agricultural areas which have been acquired for the project. However, the Contractor has to manage and mitigate a significant level of construction-related direct and indirect impacts, as the cut and cover canal will disturb community life due to access issues, dust, noise, vibration, and other associated impacts.

12. The original contractual Completion Date was set as 6 May 2021, but has now been extended to 23 September 2022 due to the slow progress of handing over full site possession. The key issues faced by the contractor include (i) delay of land acquisition and handing over process by the Employer, (ii) low progress work of backfilling work, (iii) geological collapse at the tunnel face during excavation of the Ranwediya Tunnel outlet (9+532 km), and (iv) Nilagama Tunnel outlet portal work was suspended since 01 April 2021 for few months due to public complaints against the blasting work.

13. The key construction work and the progress achieved up to December 2021 includes, canal construction, concreting and backfilling (67%), tunnel works (53%), canal structures (35%), and construction of transitions (21%). **Figure 1-3** shows the graphical representation of the overall progress of the NWPCP-ICB-2 package by end December 2021.



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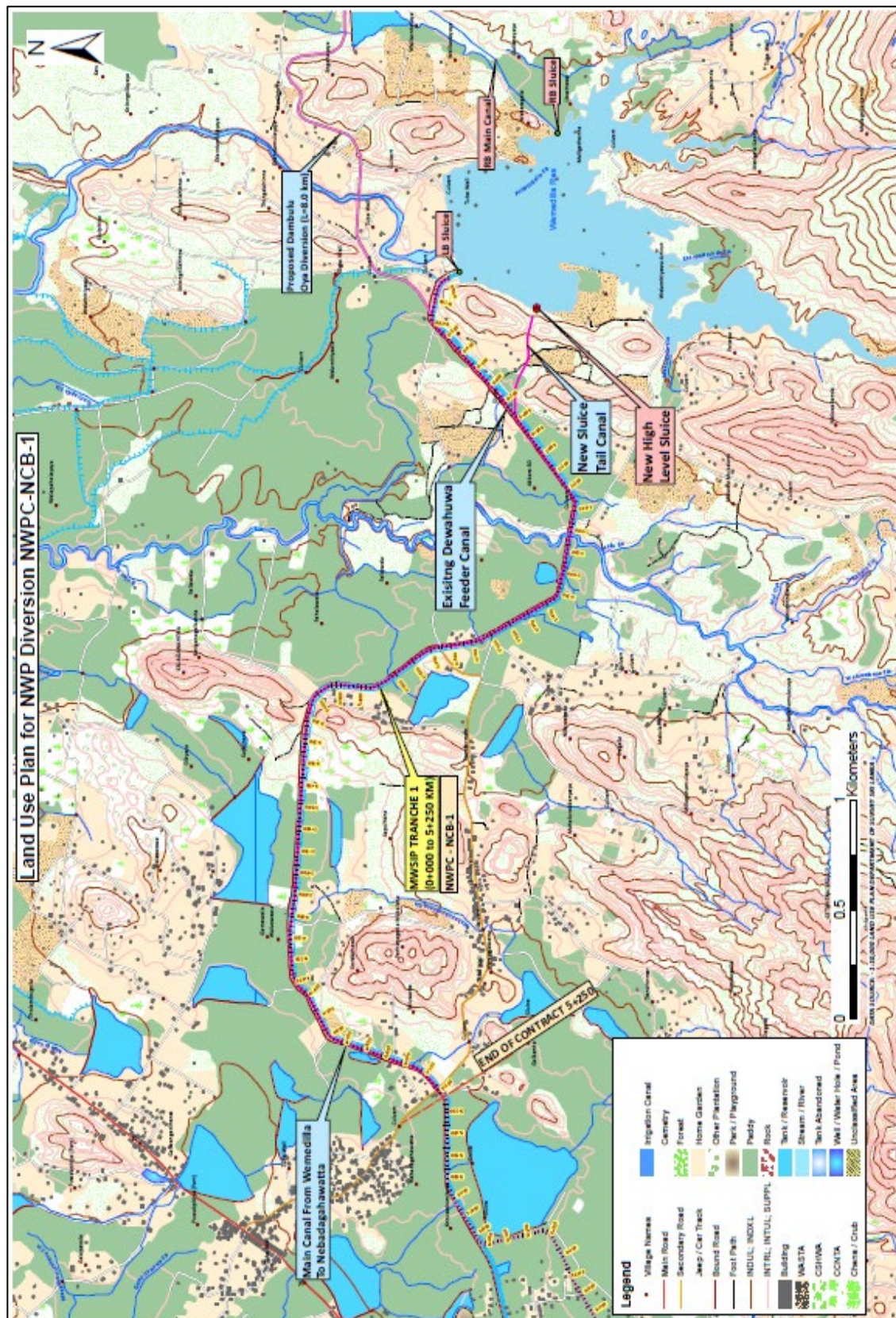


Figure 1-4: Map of NWPCP-NCB-1 Project area

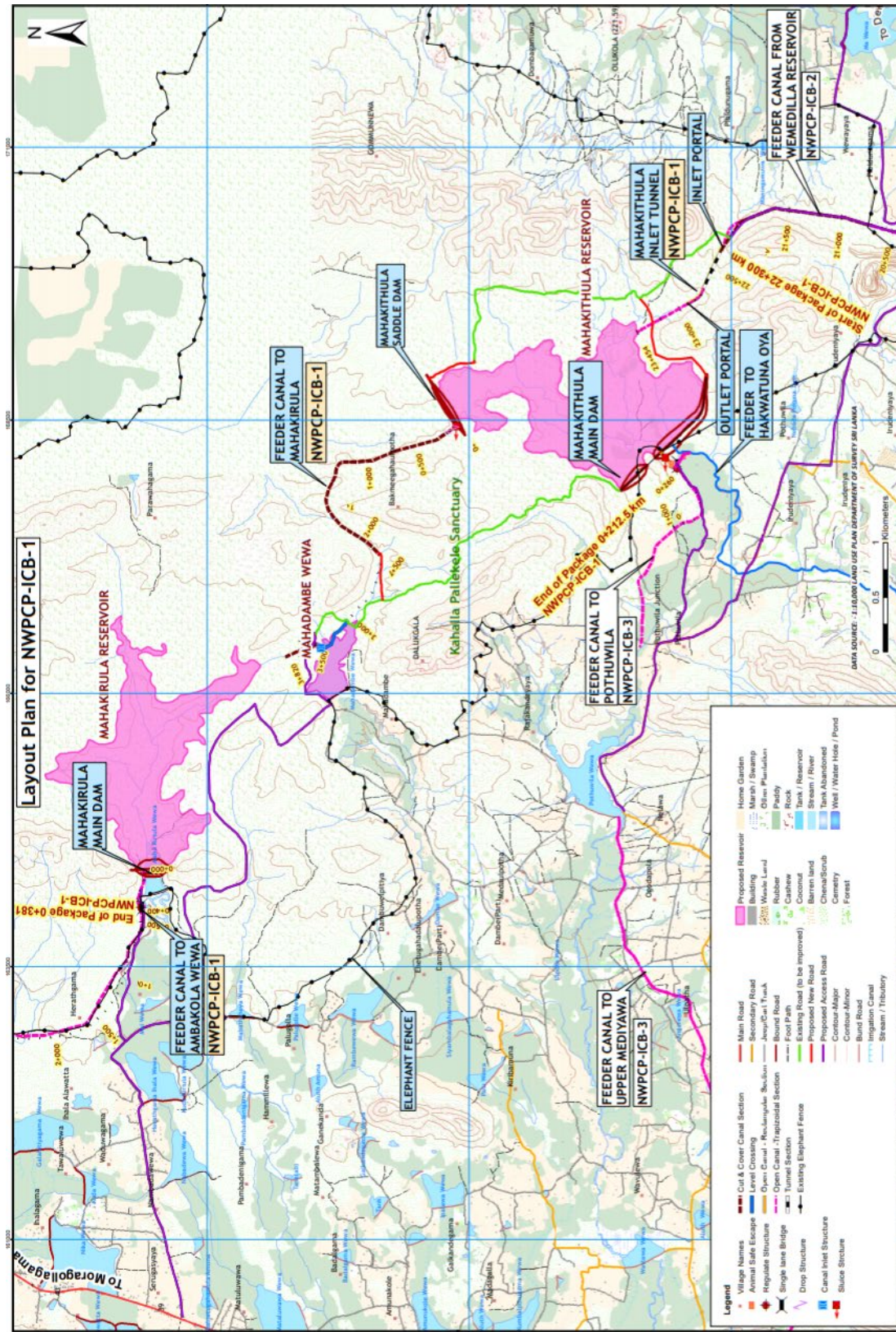


Figure 1-5: Map of NWPCP-ICB-1

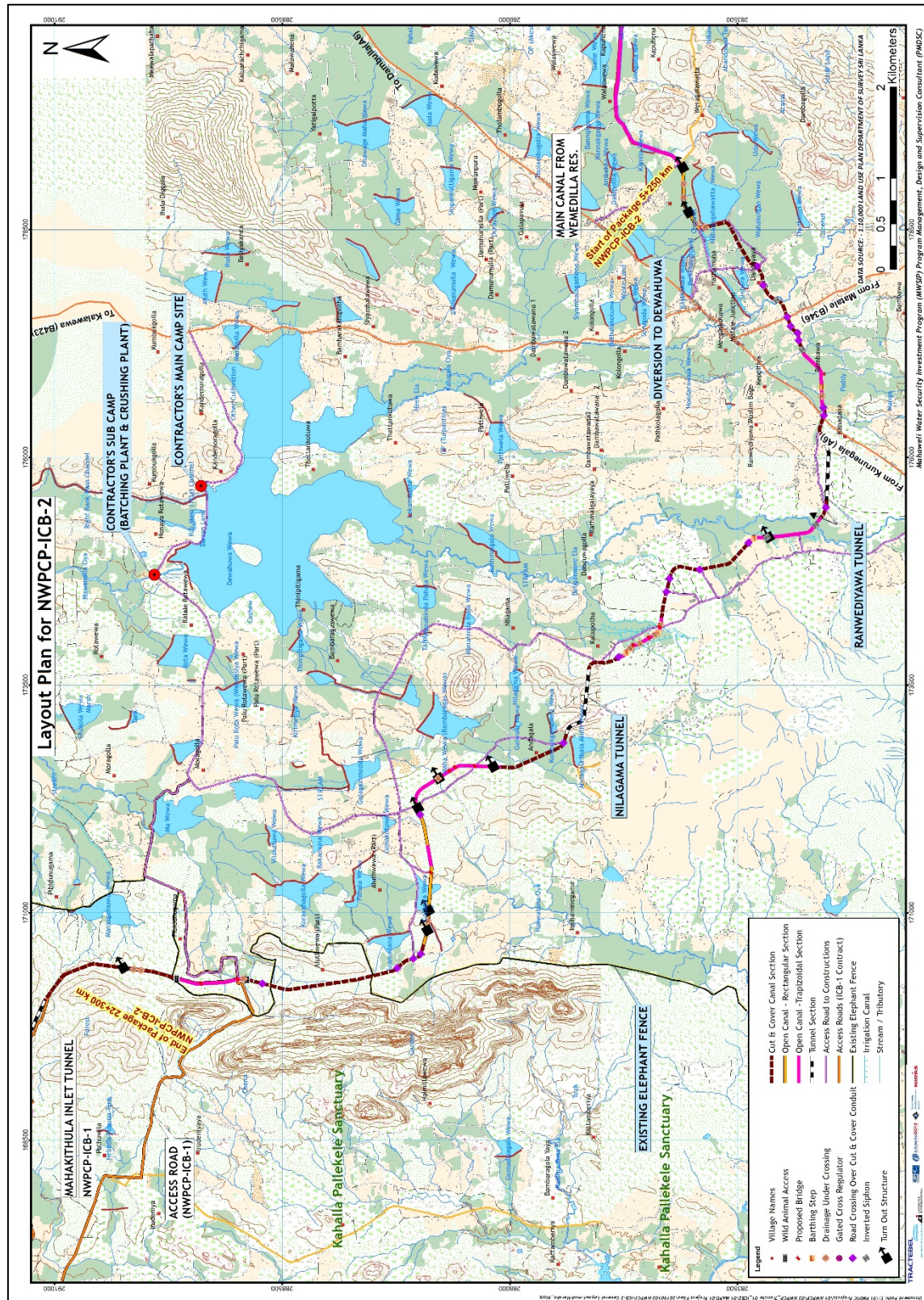


Figure 1-6: Map of NWPCP-ICB-2 Project area

1.2.4 Packages in the pipeline under NWPCP Tranche 3

15. **Table 1-2** summarizes the progress of rest of the ICB packages pipeline under NWPCP.

Table 1-2: Status of other packages pipeline under NWPCP

Package	Description	Progress by end December 2021
NWPCP-3 (Earlier abbreviated name was NWPCP-ICB-3)	Construction of Feeder Canal from Mahakirula to Kaduruwewa (20.9 km)	<ul style="list-style-type: none"> Updated EMP completed and submitted to PMU along with the bidding documents under previous contract package named as NWPCP ICB 3 on 11 April 2019 Bidding documents and EMP for the new package list of works is under preparation
NWPCP-4 (Earlier abbreviated name was NWPCP-ICB-3)	Feeder Canal from Mahakithula to Pothuwila (2.0 km), Upper Mediyawa (19.9 km) and Yapahuwa (8.9 km)	
NWPCP-5 (earlier abbreviated as NWPCP-ICB-4)	Construction of North - Western Province Canal from Dambulu Oya to Wemedilla LBMC (0+000 km to 8+575 km) and Diversion Structure	<ul style="list-style-type: none"> Link canal from Dambulla Oya to NWPC is replaced by Bowatenna Tunnel 2 (BT2) Supplementary Environment Impact Assessment (SEIA) in progress. Updated EMP prepared and submitted for bidding purposes, until EIA is completed.

2 CHANGES IN PROJECT SCOPE AND ADJUSTED SAFEGUARD MEASURES

16. In the active construction packages – NWPCP-NCB-1, and NWPCP-ICB-2 – there exist some significant scope changes due to Contractor's delays of completing construction work in the given time period, as well as due to their lacking sound technical capacity to perform the construction activities in an efficient manner. An update of the identified scope changes and the corresponding actions taken during reporting period is presented in **Table 2-1** in the NWPCP area.

Table 2-1: Identified Scope changes related to NWPCP-NCB-1, NWPCP-ICB-1 and NWPCP-ICB-2

Package	Scope change	Proposed safeguard measures
NWPCP-ICB 1	Length of the saddle dam: around 230m section extended at LB end to reflect actual ground conditions.	Approval for tree felling already obtained from DWC.
	Outlet portal of Mahakithula inlet tunnel to be shifted 37.5m forward.	No change in alignment and no additional tree felling required.
NWPCP-ICB 2	Extended RoW requested by CSCEC in Second Sanctuary Area from 20+700 km to 22+300 km	Additional land requirement fulfilled saving maximum number of trees within RoW by slightly deviating access road with the consent of DWC. Only one side allowed for access road.
	Capacity of batching plant doubled.	EPL renewed with effect from 02 December 2021 with required improvements recommended by CEA
	At Ranwadiyawa inlet portal a circular conduit section changed to a single rectangular conduit.	No additional safeguard measures required.

3 ENVIRONMENTAL MONITORING IN NWPCP

3.1 Organizational set up for NWPCP Environmental Monitoring & Reporting

17. The Resident Engineer (RE) appointed for each NWPCP contract package under the PMDSC assumes primary responsibility for ensuring the implementation of Contractor's Environmental Management Plan (CEMP) through the respective contractor. The relevant required actions will be guided by the ES and EMS of PMDSC.

18. The environmental monitoring of the all NWPCP packages, including review of Method Statements, attending relevant meetings, and all package-specific additional surveys on active and future packages under NWPCP are handled by the EMSs of PMDSC. In addition, overall guidance for the contractor's Environmental Officer (EO) to identify issues through self-monitoring, attending to required mitigation measures, obtaining required license and approvals, awareness and training for the environmental related aspects are handled by the EMS under the coordination and assistance by the ES-PMDSC.

19. The environmental issues, non-compliance status observed by EMS during routine site monitoring, as well as through the public complaints, are informed to the RE for the duly communication to the Contractor to attend required corrective actions with the guidance of EMS and ES of PMDSC.

20. The Contractor is guided to implement required mitigation measures in the updated EMP for the generic environmental issues, and for the site-specific issues comments are made on the submitted Method Statements (MS), Environmental Incident Reports (EIR), Non-Compliance Report (NCR), and through letters. In addition, periodical environment meetings, joint inspections are being used to deliver verbal instructions where necessary by PMDSC, PIU and PMU.

21. The key meetings, inspections and surveys carried out by the EMS and ES PMDSC related to NWPCP are summarized in the **Table 3-1**.

Table 3-1: Key meetings, stakeholder consultations and joint inspections attended by the environmental team of PMDSC, PIU and PMU related to NWPCP

Month of 2021	Dates			Remarks
	ICB 1	ICB 2	NCB 1	
Site Monitoring				
July	1, 12, 16, 22, 26, 28, 30 July 2021	9, 28 July 2021		
August	2, 5, 10, 11, 16, 17, 24, 27 Aug 2021	4, 6, 25, Aug 2021		
September	1, 2, 13, 27, 28, 30 Sep 2021	2 Sep 2021		
October	4, 6, 7, 8, 15, 18, 20, 21, 26, 29 Oct 2021	6, 13, 14, 29 Oct 2021		
November	10, 15, 19, 24, Nov 2021			
December	1, 10, 20, 24, 29 Dec 2021	1, 9, Dec 2021		
Joint Site Inspections				
July	20, 27 July 2021	14 July 2021		ICB 1 with PIU, DWC & contractor. ICB 2 with RE, HSO & contractor representatives.
August	20, 27 Aug 2021	6, 20 25 Aug 2021		ICB 1 with PIU, DWC & contractor. ICB 2 with PIU & DWC representatives.
September	7, 29 Sep 2021	10, 29 Sep 2021		ICB 1 with HSO & contractor representatives. ICB 2: 10 with HSO and 29 with PIU, DWC & contractor representatives.
October	12, 25, 27 Oct 2021	21 Oct 2021		ICB 1 – 27, quarry site Joint inspection with DWC, GSMB, FD, DA, PIU, PMDSC and the Contractor. ICB 2 joint inspection with new EO.
November	3, 16, 23 Nov 2021	2, 3, 11, 25 Nov 2021	3 Nov 2021	ICB 1, 2 & NCB 1 - CEA inspection - 3. ICB 1 - Disposal site inspection with DWC, PIU & the Contractor - 16, ICB 1- DWC, PIU & the Contractor joint inspection of explosive magazine - 23. ICB 1 - ES-PMDSC site inspection - 24.
December	27 Dec 2021	1, 14 Dec 2021		ICB 1 – JI for 1A-R and 1D roads with RE, SS & Contractor ICB 2 – 1, JI for NCR closing, 14, Site handover to new EMS
Progress Meetings	8 July 2021 9 Sep 2021 7 Oct 2021	9 July 2021 10 Sep 2021 14 Oct 2021		

Month of 2021	Dates			Remarks
	ICB 1	ICB 2	NCB 1	
	10 Nov 2021	11 Nov 2021		
Site Meetings				
	4, 18, 25 Oct 2021 1, 8, Nov 2021			Weekly meetings
Special meetings other than progress/ site meetings	26 Aug 2021			Awareness meeting by ES-PMU to site staff on present envt. issues including illegal tree felling. PD-PIU, RE, EMS, QS, HSO, EO, PM and other Contractor's representatives attended
	7 Sep 2021			EHS team meeting to discuss and resolve current environmental health and safety issues of the project. RE, EMS, HSO, PM, EO, SO, HO and other Contractor's representatives attended
	8 Sep 2021			Meeting with DWC, PMU & PIU regarding proposed elephant fence. PD-PIU, ES-PMU, WMP Officers, RE, EMS, PM, EO and other Contractor's representatives attended
	11 Sep 2021			Meeting with Ex- DWC officers who work under the Contractor, with RE, HSO, EMS, PM, EO, SO and HO to discuss about their duties, responsibilities, and work-related issues.
	27 Oct 2021			Meeting with DWC, GSMB, FD, DA, PIU, PMU, PMDSC and the Contractor before quarry site Joint inspection
	22 Nov 2021			Special progress meeting with ADB Country Director and Secretary of MoI with all relevant PIU, PMU, PMDSC and the Contractor representatives.
	24 Nov 2021			Special Environmental team meeting with new ES-PMDSC and 3 EMS
Other Works	11 Aug 2021			Mahakithula Disposal area tree marking with PIU. Input to shift disposal area for plant debris to a location which is less harmful to the natural forest

3.2 Monitoring Records in NWPCP-NCB-1, NWPCP-ICB-2 and NWPCP-ICB-1

22. A joint monitoring site visit carried out together with the monitoring committee appointed by the CEA on 3 November 2021 regarding the NWPCP project. The CEA forwarded their concerns related to the environmental aspects of the ongoing construction works of the projects.

23. The following sections summarize the Contractor's environmental safeguard compliance status as per the monitoring records of the PMDSC during EMS/ ES monitoring visits, and meetings held with the Contractor's representatives.

3.2.1 NWPCP-NCB-1

24. The awarded EoT was expired on 28 May 2021, with the physical progress being 98% at the end of the reporting period.

25. Draft of the environmental safeguards section in the Contract Completion Report was submitted and is under review by the CRE.

3.2.2 NWPCP-ICB-2

26. Overall commitment by the CSCEC on environmental safeguard aspects was not satisfactory during the reporting period.

27. Revision 06 of the CEMP was submitted by CSCEC on 8 December 2021 (Ref. CSCEC-ICB2-PMDSC-2860) and the report is under review.

28. The Contractor was instructed to submit site restoration plans for stockpiles and backfilled sections of the canal, which are still pending.


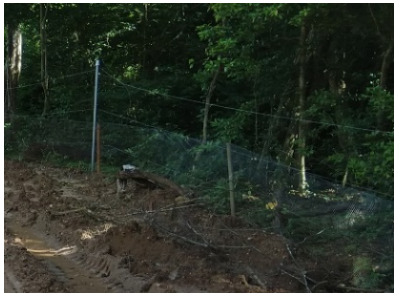



29. Out of 16 Environment Non-Conformance Reports (ENCRs) issued up to end December 2021, 4 E-NCRs (ENCR 5, 7, 9, 11) still not closed, meaning that attending the corrective actions to a satisfactory level has not happened. **Table 3-2** summarize the progress of attending required corrective measures related to the pending NCRs in the NWPCP-ICB-2 area.





Table 3-2: Summary of the open of E-NCRs in NWPCP-ICB 2


E-NCR No.	Issue Description	Date of Issue
5	Washing off the stockpiles	01.10.2019
7	Lack of proper wastewater and solid waste treatment and disposal arrangement, noise, dust issues and complaints from the neighborhood in the batching plant area	25.10.2019
9	Cement waste dumping in the site at 12+200 km area, 16+600 km area, 17+600 km area and 20+200 km area	08.01.2020
11	Cement waste at the site, not follow E-NCR 09 and Engineer recommendations,	02.03.2020

30. **Table 3-3** shows site conditions and environmental compliance status associated with NWPCP-ICB-2 area with few photographic evidences recorded during the reporting period.

Table 3-3: Environmental compliance monitoring records for the reporting period (NWPCP-ICB-2)

Location	Environmental Issue Recorded and Date	Actions taken
Ch 18+500 to 19+250 & 20+750 to 21+700 (Within the Wildlife area)	<p>a) Small mesh net to prevent falling of small animals is not maintained in some of places of wild life area</p> 	<ul style="list-style-type: none"> NCR issues by RE on 01 October 2021 (NWPCP/ICB1/NCR/0110). By mid-November 2021 the Contractor restored all locations and NCR closed on 22 November 2021 
Ch 19+950, 21+050, 21+098, 21+200, 21+330 etc.	<p>a) Unmanaged streams without attending required mitigation measure particularly within wildlife area observed</p> <p>b) During rainy season it caused water logging in upstream areas and signs of dieback of trees were visible under long term submerged condition in November 2021.</p> 	<ul style="list-style-type: none"> Construction work in final stage in all problematic locations and final solutions pending upon completion of DUCs. Remaining issues to be addressed with site restoration plans. Contractor implemented temporary corrective actions for some of locations, such as clearing blocked hume pipes etc. At 21+050, which had the major problem of tree dieback due to water logging, temporary drain path opened to next DUC located at 21+098 
Ch 20+055	<p>a) A location prone for erosion without attending required mitigation measures observed in November 2021. Due to excavation of open canal section there, few small drainage paths concentrated to one location.</p> <p>b) High risk of siltation in agricultural lands downstream during heavy rains since a stockpile also located LB side of the canal</p>	<ul style="list-style-type: none"> The Contractor informed to take suitable action and corrective action pending 

Location	Environmental Issue Recorded and Date	Actions taken
Ch 14+250 Nilagama Tunnel outlet	<p>a) Water due to tunnel dewatering at Nilagama tunnel outlet released to the adjacent tank or paddy fields through an inadequate sedimentation tank system (July 2021)</p> 	<ul style="list-style-type: none"> The Contractor informed to take suitable action November 2021. They prepared tank system on ground 
Batching plant	<p>a) Wastewater management in batching plant area was not properly functioned and the sedimentation tanks seems to be not functioning properly</p>	<ul style="list-style-type: none"> The Contractor had implemented corrective actions for wastewater management by the end of November by constructing automated wastewater treatment system.  
	<p>a) The sludge was dumped mixed with other waste material at open dump which made the site untidy and polluted.</p> <p>b) No proper waste management system in the batching plant. Open burning of waste observed which violate the EPL/CEA conditions.</p>	<ul style="list-style-type: none"> Corrective actions attended by the Contractor. Awareness programme has conducted by EO for all staff members of the batching plant regarding proper environmental management practices including EPL conditions.

Location	Environmental Issue Recorded and Date	Actions taken
		
Backfilled areas / stockpile areas	<ul style="list-style-type: none"> Backfilling work completed in some areas including wildlife areas of the canal trace. and backfilling work being progress but restoration plan still not submitted. 	<ul style="list-style-type: none"> CSCEC is reminded to prepare restoration plans on such locations
Cut and cover section below The Nilagama tunnel	<ul style="list-style-type: none"> The hard and visual barricades that were been provided are damaged and have not been re-established creating falling hazards to workers and farmers. 	<ul style="list-style-type: none"> Contractor was instructed to re-establish hard and visual barricades to avoid falling into deep excavations.
Ranwadi-yawa inlet tunnel	<ul style="list-style-type: none"> Silt contained in the tunnel wastewater is not set down in the ponds since no adequate retention time due to sedimentation tank being always full of sediments. 	<ul style="list-style-type: none"> Cleaning frequency must be increased and Contractor was instructed for the action

3.2.3 NWPCP-ICB-1

31. Overall commitment by the Contractor (CAMCE-QMCG JV) on environmental safeguard aspects is not fully satisfactory during the reporting period (July to December 2021).

32. The contractor of NWPCP-ICB-1 continued construction work during last 6 months with (3.1% physical progress by the end of December 2021 whereas planned progress was 20%). A new construction program submitted on 28 December to catch-up delayed work (letter ref. CAMCE-QMCG/NWPCP-Site/PMDSC/S-517).

33. The major works was conducted by the Contractor includes excavation and backfilling of core trench and clay cutoff wall at RB end of Mahakithula. They engaged with the construction of Contractor's facilities such as batching plant, crusher plant, material testing laboratory and workshop etc.

34. Most of key approvals are still pending such as quarry sites, batching plant, crusher plant, etc. (refer Annex 1 for updated status of approvals). Approval received from FD (landowner) to small quarry site at Wadakahagala area with approximate capacity of 80,000 m². This site would fulfill initial requirement of aggregates after receiving other approvals (CEA, GSMB and LA), if the material quality is satisfactory, until finding reliable source/s. Official approval of quarry sites within the DWLC areas is pending.

35. The tree felling being done through the State Timber Cooperation (STC) has been implemented by the Employer based on priorities of the Contractor's construction program. Progress of balance sections are shown in **Table 3.4**.

Table 3-4: Tree Removal Progress in Balance Sections

No.	Block Description	Area (ha)	Current Progress (%)	Due Date of Handing Over	New Agreed Date	Remarks
1	Mahakirula Tank borrow area-2 & 4	25.75	-	31.07.2021	31.01.2022	Procurement work will complete by 10.12.2021 & to be awarded to sub-contractors for tree removal
2	Mahakirula Bed area Lot No. 3	22.4	30%	31.07.2021	31.12.2021	Delayed due to rain in last months
3	Mahakithula Bed Area Lot No.7 & 8	37.03	-	31.07.2021	31.01.2022	STC Procurement works
4	Mahakithula Bed Area Lot No. 3,4 & 5	59.26		31.07.2021	31.01.2022	STC Procurement works
5	Mahakithula Lot No. 6 Borrow Area	19.96	30%	31.07.2021	31.01.2022	Delayed due to rain in last months
	Total	164.40				



36. A Provisional Sum Order (PSO) was sent to PMU for the approval to proceed with Environmental Quality Monitoring (ambient air quality, surface/ground water quality, noise & vibration) in NWPCP-ICB-1 area as per the Terms of Reference (ToR) in November 2021. This work shall be implemented under the BOQ Item 6.2.3 included for *Implementation of specific additional environmental mitigation measures proposed by the EIA study as instructed by the Engineer*.




37. The Contractor resubmitted (Rev. 1) of their CEMP on 30 June 2021 (letter ref: CAMCE-QMCG/NWPCP-Site/PMDSC/S-175). The submitted document was reviewed by ES-PMDSC and returned with comments to the Contractor with Approved as Noted (AN) status on 21 July 2021. The Contractor resubmitted document incorporating comments on 30 July (letter ref: CAMCE-QMCG/NWPCP-Site/PMDSC/S-250).

38. A new road (700 m) was proposed by the Contractor for joining Mahakithula Dam site and subcamp. The road is proposed to construct along the reservation of elephant fence, which is environmentally, socially and economically beneficial compared to road number 4 (e.g., less fuel, travel time saving, minimum social impacts, etc.).

39. The key environmental monitoring findings recorded within the reporting period other than the general environmental impacts resulted due to construction related activities are summarized in **Table 3.5**.

Table 3-5: Monitoring findings and key environmental issues recorded under NWPCP-ICB-1

Location	Environmental Issue Recorded and Date	Actions taken
Ma-hakithula RB	<ul style="list-style-type: none"> Damaging forest while clearing of 1A-R access road without approval and without informing the Engineer at Ma-hakithula RB The Contractor had removed 43 large trees above 30 cm DBH and several small trees / bushes. They have not followed Engineer Approved Drawings for whole cleared stretch of 300 m and around half of distance been deviated from the drawings  <p>9 August 2021</p>	<ul style="list-style-type: none"> E-NCR issued (E-NCR No. 1 dated 18 August 2021) DWC inspected the site and prepared tree list The contractor has proposed to use cleared trace as 1A-R road including deviated section (CAMCE-QMCG/NWPCP-Site/PMDSC/S-325 dated 18 Sep 2021) As evaluated by the PMDSC, the proposal can be implemented once the road designs finalized with the approval of DWC. PMDSC agreed to the proposal. Road designs are in final stage now and with the approval of DWC the road can be constructed. Any additional cost for the new trace to be borne by the contractor compared to the proposed trace. Upon completion of the road work E-NCR No. 01 can be closed.
Ma-hakithula LB	<ul style="list-style-type: none"> On 16 August 2021, the Contractor cleared approx. 0.4 ha forest area to conduct a topographical survey at LB end of the bund of proposed Ma-hakithula tank without any approval and without informing the Engineer. The Contractor was instructed by the Engineer to stop the work. The Contractor disregarded instruction given by the Engineer, by next morning (17 August 2021) the Contractor had started clearing the area again. The total area cleared was about 1.3 ha including several small trees and bushes The E-NCR No. 02 issued due to clearing of forest (bushes and small trees) for surveying work without approval. Since the part of cleared area used for dam construction work and a temporary access road, restoration work cannot be proceeded now. Upon completion of the construction work (temporary road will be used during entire project period), 	<ul style="list-style-type: none"> DWLC, PIU and PMDSC jointly inspected the area and thoroughly warned the Contractor (17 August 2021). E-NCR issued (E-NCR No. 02 dated 20 August 2021) Corrective actions pending. Since there was a possible design change issue at LB end it was unable to identify which area needs to be restored during the months (part of cleared area may need to clear for construction work)  <ul style="list-style-type: none"> Relevant area to be restored by the Contractors own cost based on a SCAP. DWC, PMU, PIU and PMDSC thoroughly advised the Contractor about 2 incidents and the Contractor refrained from causing undue disturbances of similar nature to the forest furthermore.
New sub campsite -Irudeni-yaya	Severe soil erosion observed due to heavy rain fall on 11 October 2021	<ul style="list-style-type: none"> Immediately stopped the work and the Contractor was instructed to take necessary actions to prevent further erosion. Warning letter issued (PMDSC-NWP-

Location	Environmental Issue Recorded and Date	Actions taken
	<p>Part of Soil bund constructed to prevent erosion washed away due to heavy rain fall on 18 November 2021</p>  	<p>Site/ICB-1/CAMCE-QMCG/294 dated 13 October 2021).</p> <ul style="list-style-type: none"> ▪ The Contractor constructed soil bund and few concrete vertical drains (slope drain) in the slope to facilitate runoff water flow as a temporary mitigatory measure. ▪ Turfing work also conducted as a slope protection measure. ▪ Required measures were implemented after washing away on 18 November 2021 to prevent further erosion ▪ As a permanent measure proper drainage system to be constructed with the development of subcamp site. 
Ma-hakithula Borrow area 9	<p>No erosion protection measures were implemented. Main stream blocked at 2 locations with soil (one location used as a temporary road). Heaps of soil dumped along both sides of streams creating major risk of washed away during rainy season</p> 	<ul style="list-style-type: none"> ▪ Warning letter issued (PMDSC-NWP-Site/ICB-1/CAMCE-QMCG/294 dated 13 October 2021). ▪ The Contractor unblocked the stream and removed heaps of soil along the stream. ▪ Two rows of hume pipes used at temporary road to facilitate water flow with some erosion prevention measures. 

Location	Environmental Issue Recorded and Date	Actions taken
		
		
	Mahakithula – Main dam RB	Land clearance- Mahadambe feeder canal
		
	Borrow area 9- Mahakirula - RB	Sub camp - Irudeniya

Figure 3-1: Photographic Records of NWPCP-ICB-1 area by end December 2021

3.3 Public Grievances on Environmental Matters

40. Public grievances related to land matters, and construction related aspects are mainly handled by the PIU-NWPCP, holding Grievance Redress Committee Meetings (GRCM) periodically. In addition, the Contractor is maintaining a Grievance Log for Environmental-related matters.

41. There are no such records available under the NWPCP-NCB-1 contract. The Public grievances recorded by the NWPCP-ICB-1 and ICB-2 Contractors are given under **Annex 2**, indicating the present status of attending corrective measures.

3.4 Health & Safety Highlights for the Reporting Period

42. Health & safety (H&S) aspects are covered by the focal point for H&S based in the UEC ICB-2A office, who oversees all active packages under MWSIP, and one H&S Officer based in RE office of NWPCP-ICB-1 under PMDSC focusing on construction monitoring of NWPCP packages.

43. **Table 3-6** summarizes the updates related to H&S aspects in the NWPCP area covering 3 active packages.

Table 3-6: H&S Highlights related to NWPCP during the reporting period

Package	Accident/ Incident occurred	Corrective actions/ Recommendations
ICB-1	<p>One lost time (three days) injury incident reported.</p> <ul style="list-style-type: none"> A labourer has an accident while cutting the tile, face has damaged due to a moving tile particle. <p>12 Covid-19 positive cases recorded.</p> <ul style="list-style-type: none"> 11 from Contractor staff & one from PMDSC staff 	<p>Contractor has started the construction work in Mahakithula Main Dam, Saddle Dam, Feeder canal, tunnel and access roads and implemented the following measures to minimize the accidents:</p> <ul style="list-style-type: none"> Conducting regular PCR & RAT for Covid-19 Providing of PPE for all employees. Assigning safety staff. Providing necessary safety arrangements like signboards, barricading for critical locations, safe access etc. Induction training and other safety trainings. Preparation and implementation of COVID 19 Prevention Plan. Providing of first aid materials. Daily healthcare measures to prevent from COVID 19. Regular site safety inspections have been conducted by PMDSC.
ICB-2	<p>Two (2) accidents, 36 recordable incident & first aid cases and sixteen (16) COVID 19 positive cases have been occurred in ICB 2.</p> <ul style="list-style-type: none"> A labour's eye was damaged due to splashed grout caused by sudden blast of grouting hose. He was hospitalized and recovered after two days A tunnel labour's foot damaged due to fallen of hanging rock. 	<p>Accident investigations have been done and corrective and preventive measures applied as follows:</p> <ul style="list-style-type: none"> Conducting regular PCR & RAT for Covid-19 Providing of PPE for all employees. Assigning safety staff. Providing necessary safety arrangements like signboards, barricading for critical locations, safe access etc. Induction training and other safety trainings. Preparation and implementation of COVID 19 Prevention Plan and Project Health & Safety Plans. Providing of first aid materials and medical facilities. Daily healthcare measures to prevent from COVID 19.

Package	Accident/ Incident occurred	Corrective actions/ Recommendations
		<ul style="list-style-type: none"> ▪ Special awareness sessions on Covid 19 have been conducted with the participation of MOH & PHI. ▪ Contractor has conducted PCR and Rapid Antigen tests several occasions as a precautionary measure ▪ Regular site safety inspections have been conducted by PMDSC and issued instructions in writing and followed up the rectifications. ▪ Monthly inspection of vehicle and machinery.
NCB-1	No incidents occurred	Construction works in completion stage. Contractor has conducted remaining works in necessary control with implementing required health & safety measures.

4 PLANNED ACTIVITIES FOR NEXT PERIOD (JANUARY TO JUNE 2022)

44. The key activities in addition to the routine contract management and supervision activities under Task 3, planned by PMDSC for next period will include following:

- Preparation of the Supplementary Environment Impact Assessment (SEIA) for Bowatenna Tunnel 2 and improvements to Wemedilla Reservoir (NCP-5 and -6) as per the ToR issued by CEA.
- Site restoration plans have been requested from the Contractor, and after approving by the Engineer, habitat restoration of the NWPCP-ICB-2 area followed by the backfilling will be initiated under the PSO budget
- Reforestation work and other relevant conditions given by DWLC related to NWPCP-ICB-1 package will be initiated.
- Basic preparatory works for reforestation including land selection, development of planting methodology for each land, Specification preparation, PSO preparation, (probably selection of sub-contractors) etc. will be completed aiming replant at least 50 ha during next rainy season (Nov 2022).
- Completion of internal road network within the sanctuary with minimum damage to the forest. Saving of large trees closer to the ROW of roads will be encouraged where possible.
- Completion report for the NWPCP-NCB-1 package will be prepared once construction work is completed

Annex 1 : List of approvals obtained during the reporting period

NWPCP – ICB 1 up to December 2021					
Activ-ity/Item	Consent of the landowner	LGA	CEA	GSMB	Others
Main campsite, Irudeniya	DWC, Granted	Granted the approvals (popi/prasa/04/04/03/30/2021)	Got the EPL From NWPEA (6366/2021, valid until 27/07/2022)	N/A	N/A
Sub campsite, including workshop Irudeniya	Granted the DWC approval	Pradeshiya sabha, Polpithigama, to be applied	Site clearance from NWPEA pending	N/A	N/A
Concrete batching plant, Irudeniya	Granted the DWC approval	Trade license, Pradeshiya sabha – Polpithigama to be applied	Site clearance from NWPEA pending	N/A	N/A
Metal Quarry, Wada-kahagala	FD approval granted (FD/EC&M/EIA/MASL/NCP-UEC/2012 dated 15-12-2021).	Trade License, Pradeshiya sabha – Polpithigama, to be applied	EPL from CEA – Kurunegala, to be applied	IML from GSMB – Kurunegala, to be applied	Got the Archeological report. Explosive permit – MOD To be applied

NWPCP – ICB 1 up to December 2021					
Activ-ity/Item	Consent of the landowner	LGA	CEA	GSMB	Others
Metal Quarry, Iru-denyaya, Akkara 60 (EIA included – RC 1)	Waiting for DWC approval	Trade License, Pradeshiya sabha – Polpithigama, to be applied (waiting for DWC approval)	EPL from CEA – Kurunegala, to be applied (waiting for DWC approval)	IML from GSMB – Kurunegala, to be applied (waiting for DWC approval)	Got the Archeological report. Explosive permit – MOD To be applied
Metal crusher, Iru-denyaya	Granted the DWC approval	Trade License, Pradeshiya sabha – Polpithigama, to be applied	Got the Site clearance from NWPEA (PEA/PPP/SC/MC/M/1050/2021)	N/A	N/A
Waste disposal sites – D1, D2, D3.	Granted the DWC approval	N/A	Applied for the environmental clearance (processing at NWPEA)	N/A	N/A
Soil borrowing areas (L3, L4, L5)	Granted the DWC approval	Trade License, Pradeshiya sabha – Polpithigama, to be applied	ER from CEA – Kurunegala, Applied and processing	IML from GSMB – Kurunegala, Applied and processing	Archeological clearance from dept. of archeology Kurunegala, processing

NWPCP – ICB 1 up to December 2021					
Activ-ity/Item	Consent of the landowner	LGA	CEA	GSMB	Others
Deep tube well, main camp site - Irudeniya	DWC, Granted	N/A	N/A	N/A	Water resource board approved (GRU/HGR/RA/2021)

ICB-2 up to December 2021

Item /operation	Type	Agency	Date of Issue	Valid up to	Remarks
NWPCP project	EIA	CEA	23/2/2016	23/2/2022	Renewal process is going on
Batching plant	EPL	CEA	2/12/2021	25/08/2022	Valid
	En. Clearance	Galewela LA		31/12/2021	
Open blast	Mining li-cense	GS&MB	2020.12.31	2021.12.31	IML -1
Tunnel-1	Mining li-cense	GS&MB	2020.12.01	2021.12.01	IML-2
Tunnel-2	Mining li-cense	GS&MB	2021. 02.23	2022. 02.23	IML-3

Annex 2 : Public Grievances recorded by the NWPCP-ICB 1 & ICB 2 Contract

Public Complaints Summary as of December 2021 NWPCP-ICB-1

Category	Received No			Solved No		
	Up to last month	This month	Cumulative	Up to last month	This month	Cumulative
Complaints	01	01	01	01	01	02
Requests	00	00	00	00	00	00

Complaint No:	Received Date	Location	Name and Address of the complainer	Inspected Date	Summary of the Complaint	Action Taken	Solved
1	25.10.21	Road No.04	siri perakum farmers organization, Pot-huwila, polpithigama. Mr. Pemadasa 0772092343	30.10.21	The irrigation canal has been blocked due to improvements of road no. 4. The farmers asking to clean the irrigation canal to conveying water to their 7 acres paddy lands.	Conducted the join inspection with Engineer and decided to implement temporary arrangement to convey the water to paddy fields until construction of the permanent irrigation canal.	yes
2	13.11.21	Access road, sub camp, Iru-deniyaya	Villagers, Iru-deniyaya	12.11.21	The village road damaged due to the heavy rain and difficult to move vehicles/pedestrians.	Arranged the hum pipes and proper drainage system to flow rainy water freely. Improved the road surface by using gravel, aggregates and rubble.	Yes

Source: EO ICB 1

Public Complaints Summary as of December 2021 NWPCP ICB -2

No	Date of complain	Name address and contact of the Complainer	Complain on	Action taken to resolve so far
1	2020.10.29	M.G.Karunawathi No 122, Adagala,Bambaragaswewa, Galewela Location: 14+300 km	Cracking of the walls due to ground vibration which is generated during the blasting at the tunnel	Not negotiated
2	2020.11.03	S. Gunarathne Location: 17+900 km	Cracking of the walls due to ground vibration which is generated during the blasting at the tunnel	There are many cracks were observed during the inspection.
3	2020.11.16	M.G.Javathilaka No 121/ D, Adagala, Bambaragaswewa Location: around Nilagama Tunnel outlet	Cracking of the walls due to ground vibration which is generated during the blasting at the tunnel	The house was inspected by the EO and forward the complain to blasting engineer. Confirm was given that compensation or repairing will be done after the project activity based on information in the pre-construction crack survey after construction crack survey
4	2020 12.04	R. M. Migara Rathnayak, Adagala, Bambaragaswewa ,Galewela 077 1776789/077 8183626 Location: around Nilagama Tunnel outlet	Cracking of the walls due to ground vibration which is generated during the blasting at the tunnel	Not negotiated
5	2021.01.29	W.G.Lalith Wijekoon Adagala, Bambaragaswewa 0718568838 Location: around Nilagama Tunnel outlet	Cracking of the walls due to ground vibration which is generated during the blasting at the tunnel	The house was inspected by the EO and forward the complain to blasting engineer.

No	Date of complain	Name address and contact of the Complainer	Complain on	Action taken to resolve so far
6	2021.03.20	B.S.M.Samarawikrama No 512/A, Adagala Rukaththana yaya, Bambaragaswewa, Galewela 0705763833/ 0771299985 Location: around Nilagama Tunnel outlet	Cracking of the walls due to ground vibration which is generated during the blasting at the tunnel	Confirm was given that compensation or repairing will be done after the project activity based on information in the pre-construction crack survey after construction crack survey
7	2021.03.19	Adagala, Bambaragaswewa , Galewela 077 2423120 Location: around Nilagama Tunnel outlet	Cracking of the walls due to ground vibration which is generated during the blasting at the tunnel	Crack survey was done Confirm was given that compensation or repairing will be done after the project activity based on information in the pre-construction crack survey after construction crack survey
8	2020.11.23	M. R. M. Naleer No: 234, Ranwed iyawa, Giilawali.i 077 2102302 Location: 9+ 932 to 10+000	Paddy land damaged due to canal constructions	Sand bags were placed as per the instruction given by Senior Resettlements Officer (PIU) PIU advised to pay compensation to the crop damage.
9	2021.11.01	S.A.M. Ashroff Keppetiya Galewela 077-6490193 Location: 10+300 km	Crop damaged due to over flowing of diversion canal during the heavy rain	Compensation procedure is underway to cover the crop damage
10	2021.11.01	M I I Miym Ranwediyawa Galewela 071-7030454 Location: 10+300 km	Crop damaged happened due to over flowing of diversion canal during heavy rain	Compensation procedure is underway to cover the crop damage

No	Date of complain	Name address and contact of the Complainer	Complain on	Action taken to resolve so far
11	2021.11.20	Spouse of Lalith Wijeyananda No. 164/9, Uthpathiniya, Andasala, Bambaragaswewa. 070-4541642 Location: around Nilagama Tunnel outlet	Complained that her and family experiencing excessive sound nuisance due to blasting at Nilagama tunnel	Different measures have been applied to reduce the noise level below the standards.