Environmental Monitoring Report

Project Number: 44007-013
Semi-Annual Report
February 2018

PRC: Jiangxi Fuzhou Urban Integrated Infrastructure Improvement Project

Prepared by Fuzhou Project Management Office (Fuzhou Investment and Development Company) for the Fuzhou City Government, and Fuzhou City Environment Protection Bureau for the People's Republic of China and the Asian Development Bank.

Asian Development Bank

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CURRENCY EQUIVALENTS

(as of 29 December 2017 Friday)

Currency unit	–	Yuan (CNY)
US$1.00	=	CNY 6.5074 (Middle Rate)
CNY1.00	=	US$ 0.1537

ABBREVIATIONS

ADB	–	Asian Development Bank
BRT	–	bus rapid transit
COD	–	chemical oxygen demand
CEIA	–	consolidated environmental impact assessment
EMP	–	environmental management plan
PCC	–	Public Complaints Center
PRC	–	People's Republic of China
PEPD	–	Provincial Environmental Protection Department

WEIGHTS AND MEASURES

BOD_5	–	biological oxygen demand
CO	–	carbon monoxide
dB	–	decibel
ha	–	hectare
kg	–	kilogram
km	–	kilometer
L	–	liter
m	–	meter
m^2	–	square meters
m^3	–	cubic meters
mg	–	milligram
NOx	–	nitrogen oxide
NO_2	–	nitrogen dioxide
SOx	–	sulfur oxide
t	–	ton

NOTE

In this report, "$" refers to US dollars.

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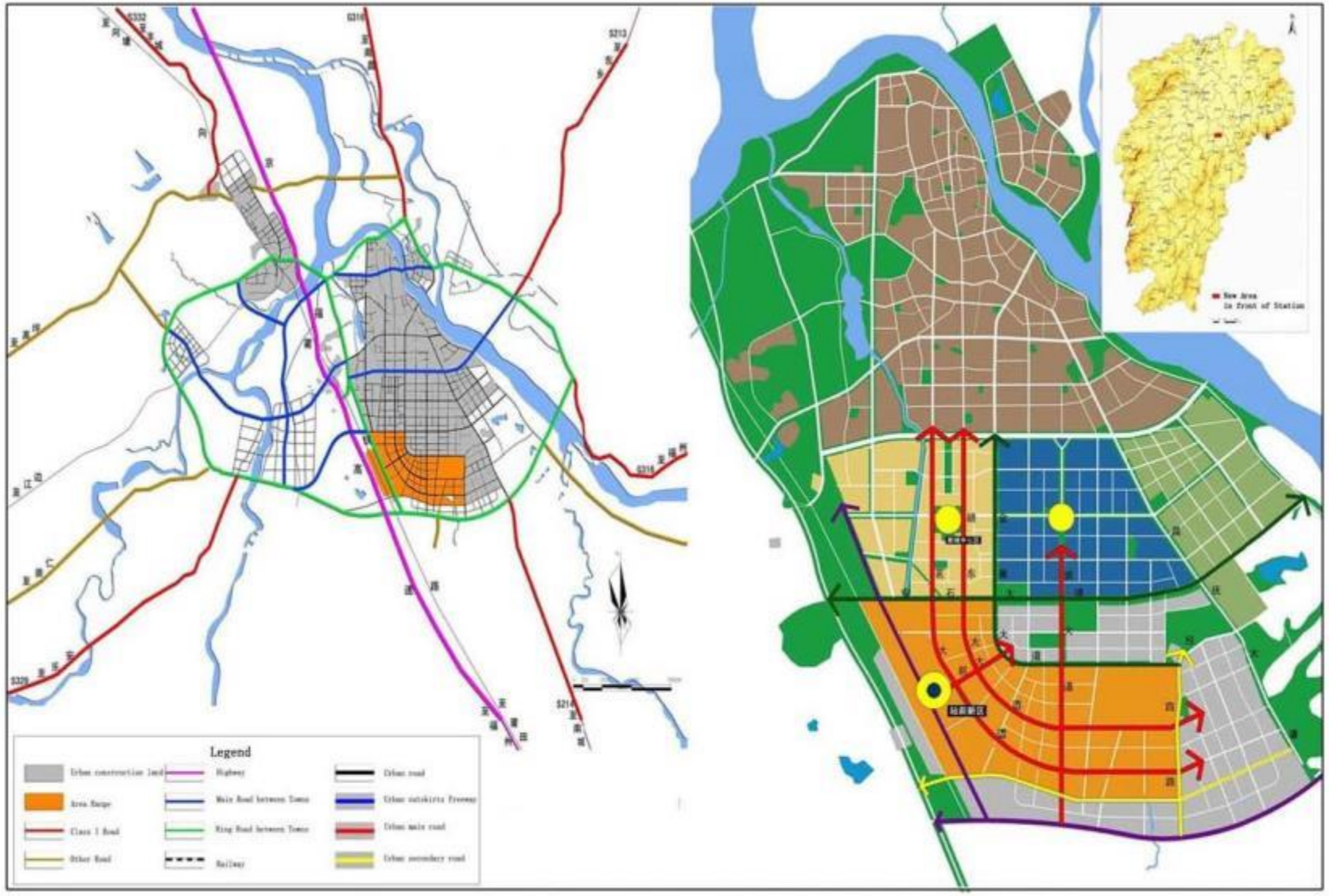


Map- 1 Project Location

I. INTRODUCTION

A. Report Purpose and Rationale

1. As defined in the domestic environmental impact assessments (EIAs) and consolidated environmental impact assessment (CEIA) for Jiangxi Fuzhou Urban Integrated Infrastructure Improvement Project (the Project), semi-annual environmental monitoring reports (EMRs) have to be prepared by the borrower in order to evaluate and assess project activities and to review progress and ensure the effective implementation of the environmental management plan (EMP).

2. The last (sixth) environmental monitoring report (EMR) covering the period July to December 2016 was disclosed in February 2017. The external environmental monitoring service contract (between FIDC and the independent consultant) has expired. All required deliverables have been submitted and approved as scheduled. As this project's physical completion date has been extended to 30 June 2019, per requirement in the Project Agreement and Loan Agreement, the PMO is requested to extend the contract (including engagement of local environmental sampling and test institute) in order to keep up external environmental monitoring until project completion, i.e., from original closing date January 2017 to new closing date 31 July 2019, during the period from now to which, at least four external semi-annual EMRs and an environmental project completion report (dated 31 December 2019) should be prepared. In December 2017, the extended contract was signed. The schedule for future semiannual EMRs submission was confirmed (semiannually, 31 July in progress report and 30 December in stand-alone EMR, until completion of the whole project).

3. The purpose of this seventh EMR is to document the project and environmental management activities and compliance with the approved EMP for this Project from 1 January- 31 December 2017. As the seventh EMR, it will not only cover the construction phase, but also demonstrate compliance with the EMP for the design, bidding, and construction preparation stages. In line with targets aimed at reducing the negative environmental impacts of the Project and in accordance with all the relevant specifications and standards of the PRC, as well as the policies of the Asian Development Bank (ADB), this report will emphasize: (i) progress made in implementing the EMP, (ii) implementation of mitigation measures, (iii) environmental compliance, (iv) institutional strengthening and training, (v) public consultation, and (vi) problems that have occurred and corrective actions taken.

4. This report is prepared by the FIDC (Fuzhou Investment and Development Company) with the assistance from the independent external environmental consultant, Mr. Mingtao Nie. The monitoring plan in the approved EMP was updated on the basis of site investigation and discussion with the local environmental monitoring agency (for field sampling and lab testing), Jiangxi Solid Environmental Services Co., Ltd. (which certificate please see **Appendix 4**).

B. Project Objective and Components

5. **Project components.** The Project involves the construction of four main components to support the urban expansion of Fuzhou city, to assist in the movement of passengers between the new train station and the existing city area and to reduce flood risk. The four components are as follows: (i) Four station access roads consisting of 9 km of new Class II road, to provide access to the new railway station and includes utilities, streetscape improvements and improved traffic management;(ii) Upgraded public transport system consisting of 12 km of Bus Rapid Transit (BRT) between the new station and the city center;(iii) An urban transport (multimodal)

hub including new city bus/bus rapid transit(BRT), long-distance bus terminals, taxi facilities and parking for bicycles, motorcycle, and automobiles; and (iv) A Fenggang river improvement and park development project to extend an existing park corridor along the river providing an urban "greenway" for non-motorized transport that will link the old city with the new station development area.

C. Project Implementation Progress

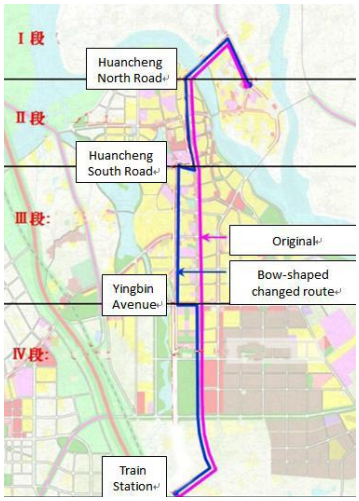
6. The below **Table 1-1** shows the latest project implementation progress.

Table 1- 1 Summary of the Subproject Implementation Status(as of 31 December 2017)

No.	Subprojects	Implementation Status
C1.	**Civil works for access roads**	
1	C1.1.Waihuan Road (Front of Zhanqian Square) (k00-k2+580)	Under operation(domestically funded)
2	C1.2. Waihuan Road (K2+580-K3+060)	Trial (100% works completed)
3	C1.3. Zhanqian Road (Yuming Road – Jinchao Road)	Under construction(80% works completed); remaining work delayed due to Gandong conduit, and to complete by Dec 2018
4	C1.4. Gandong Road (Anshi Road – Zhanqian Road) and Jinchao Road (Anshi Road – Zhanqian Road)	Under construction(80% works completed); remaining work delayed due to Gandong conduit, and to complete by Dec 2018
5	C1.5. Zhanqian Road (Jinchao Road – Jinni Road) and Jinchao Road (Zhanqian Road – Jinni Road)	Trial (100% works completed)
6	C1.6. Gandong Road (Zhanqian Road – Jinni Road)	Under construction(80% works completed); remaining work delayed due to Gandong conduit, and to complete by Dec 2018
C2.	**Civil works for BRT**	
7	C2 BRT civil works	Under construction, scheduled from Jul 2017 to Dec 2018.
C3.	**Civil works for bus terminals and transport hub**	
8	C3.1. Bus company headquarter, bus and BRT terminals	Main structure completed, interior decoration underway (about 60% works completed)
C4.	**Civil works for Fenggang River improvement** (90% works completed)	
9	C4.1. Hydraulic and landscaping works	Trial (90% works completed), remaining landscaping in spring 2018
10	C4.2. First section of landscaping works	Trial (90% works completed), remaining landscaping in spring 2018
11	C4.3: Second section of landscaping works	Trial (90% works completed), remaining landscaping in spring 2018
E5.	**Equipment**	
12	E1 BRT Equipment	To procure in Q1 of 2018
13	E2 BRT Buses (70) and Feeder Buses (10)	To procure in Q2 of 2018
14	E3 Equipment for Bus Maintenance	Procured in Q3 of 2017
CS6.	**Consulting Services**	
15	CS6.1.Implementation Support and Institutional Strengthening	Under implementation
16	CS6.2.Land Acquisition and Resettlement	Under implementation
17	GAP Implementation	Under implementation
18	EMP implementation	Under implementation
19	BRT/NMT Planning and Implementation Support	Under implementation

7. **Realignment of BRT corridor**. The domestic EIA of the whole Project was approved by Fuzhou EPB in 2012. Fuzhou EPB approved the updated domestic EIA report on 16 January 2016 for the BRT corridor realignment (see ***Appendix 2*** of the fifth ***EMR*** dated Aug 2016). Correspondingly, an environmental due diligence report on the BRT corridor realignment was approved by ADB and disclosed on ADB project website in September 2017.

Table 1- 2 BRT Route before and after Re-alignment

Route	Original	Re-aligned to	Note
	Wenchang Avenue – Gandong Bridge – Gandong Avenue north (4.68km)	Wenchang Avenue – Gandong Bridge – Gandong Avenue north (4.68km)	Un-changed
	Gandong Avenue north -Yingbin Avenue (2.83km)	Huancheng South Road – Yuming Avenue – Yingbin Avenue(4.13km)	**Changed**
	Yingbin Avenue - Station roads (4.69km)	Yingbin Avenue - Station roads (4.69km)	Un-changed
Total Length	12.2 km	13.5 km	

8. **Proposed BRT design improvement.** During the Nov 2017 ADB loan review mission, the BRT implementation support consultant pointed out that BRT buses cannot easily u-turn at the beginning point (Station B1) under the current design and proposed two alternative options for improvement. After discussions, it was agreed that a “detour plan” shown in Error! Reference source not found.**-1** will be sought. A detour route with a new station will be included in the ADB project scope while the proposed Xiaoqiao bus terminal will be developed by the government outside the ADB project scope. The IA requested that improvement of 400 m section of Xiaoyi Road excluding the Wenchangli tourism development area be financed by ADB loan. In Dec 2017, the IA (FIDC) acknowledged that as the proposed BRT design improvement will involve the national highway having heavy truck traffic so with potential traffic safety risks, the proposal was still being considered, and not yet determined. Safeguard impact assessment documents (especially environment) will be prepared for ADB’s review once the design is revised.

Figure 1- 1: Improvement Proposal around the Beginning Point of BRT

9. **Sponge city and wetland habitat.** FMG adopted the principles within the design of Fenggang River improvement, most works of which were completed and open in Sept. 2017. Fenggang River Improvement (Phase II) component is divided into five scenic areas from north to south along the river channel: (i) Sanweng garden scenic spot, which has become a fine-quality park. (ii) Fengfanliubi Square, Yingbin Plaza and Liaowang Suare scenic spots. The concept of "Sponge City" is adopted in these three big squares paved with permeable brick, permeable concrete and loose wood piled below. When it rains, rainwater flows directly into the Fenggang River through infiltration, rather than by pipelines, and therefore, there will be no waterlog on square ground. (iii) Riverside wooden platform. In addition to gentle slope lawn decorated by the original ecological river bank, there are also various ecological forests, planted with such as osmanthus, magnolia, crape myrtle, and superba tree, and etc.. (iv) Gabion ecological slope protection for 3km of the river bank. It is flexible and ecological, and very beneficial to aquatic plants and fish. (v) Flood wetland keeps the original ecological environment. Through dredging the river channel, a 500-meter long flood wetland is built to guarantee flood prevention and provide a good ecological living environment. Hence, Fenggang River Improvement (Phase II) component promotes mitigation and adaption to climate change, provides ecological purification function and conserves biodiversity. In end Dec 2017, the Fenggang river park was formerly listed as one of the national wetland park pilots by the state forestry administration[1].

Figure 1- 2: Overview of Fenggang River Park

10. **Environmental due diligence report on the potential scope changes.** To fully utilize the potential loan savings, the addition of electric connection for power supply of all the BRT stations, underground relocation of high-voltage power lines along Yuming Road and changes around the beginning point along BRT corridor (***para. 8***) may be considered. The proposed power supply line component remains located under the current BRT alignment, so the incremental environmental impact is expected insignificant. It would need to review and confirm the safeguard requirements for a change of scope of this nature. If the environmental impacts are significant, an addendum to EIA should be prepared and submit to ADB for further approval. During this report period, FIDC informed that the Fuzhou electric company submitted a proposal to FMG in Sept. 2017. However, the FMG has not decided which additions will be applied for the potential ADB loan saving. Therefore, safeguard impact assessment documents (especially environment) will be prepared for ADB's review once the decision is made.

[1] http://www.shidi.org/sf_E3BE9DFD0D6341AC99FD71B4F07E9BB7_151_sdb.html

II. INSTITUTIONAL SETUP AND RESPONSIBILITIES FOR EMP IMPLEMENTATION AND SUPERVISION

A. Institutional responsibilities for environmental management

11. **Establishment of the environmental management system (EMS).** Based on the actual progress, the environmental officers of FIDC conducted detailed discussion with the contractor and supervisor. The below **Figure 2-1** and **Tables 2-1** to **2-2** update the environmental responsibilities of each organization during construction phase of the Project.

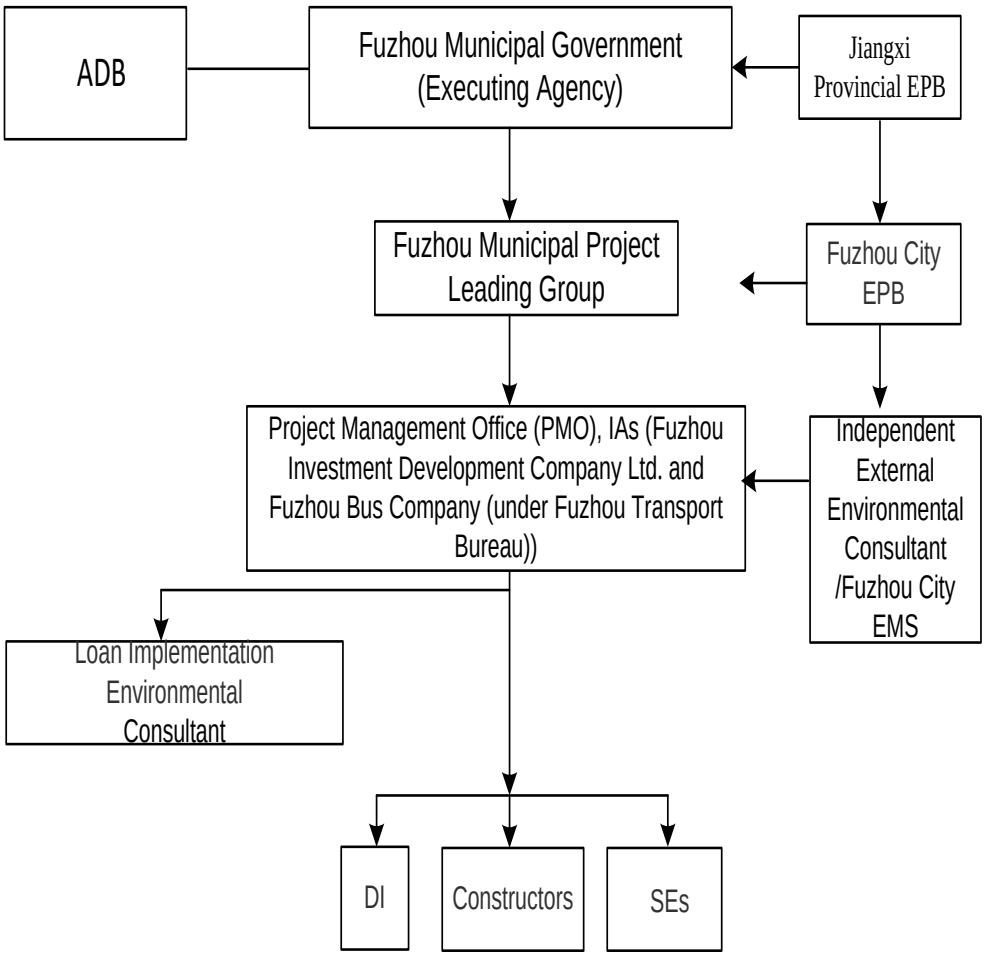


Figure 2- 1 Environmental Management System of the Project

12. The Project Management Office (PMO, under FIDC) ensures that the EMP is part of the contract documents. Contractor is responsible for preparing a specific Environmental Management Plan (Contractor's Environmental Management Plan or CEMP) based on the EMP, prior to the commencement of construction activities. Supervising Engineer (SE) is responsible for

reviewing and approving Contractor's EMP as well as ensuring that contractor complies with its mandates. Public complaints regarding adverse environmental impacts arising from inadequate implementation of the EMP, if any, will be captured through the proposed Grievance Redress Mechanism. For the details please see the **Table 2-1**. So far, all ten contractors (C1.1, C1.2, C1.3,C1.4,C1.5,C1.6, C2, C3.1,C4.1~-C4-3) have submitted their CEMPs for each contract, and they have been reviewed by the Independent External environmental consultant, and approved by PMO.

Table 2- 1 List of Agencies for Project Implementation

No.	Subprojects	IA
1	**Output 1:** Bus rapid transit system	FIDC (To be operated by Fuzhou Bus Company, under Fuzhou Transport Bureau)
2	**Output 2:** Urban transport hub	Fuzhou Bus Company (under Fuzhou Transport Bureau)
3	**Output 3:**Fenggang river greenway	FIDC
4	**Output 4:** Station access roads	FIDC
5	**Output 5:** Institutional strengthening and capacity building	FIDC and Fuzhou Bus Company (under Fuzhou Transport Bureau)

13. Each contractor has an Environmental Management Officer in the contractor's staff responsible for implementing the EMP, correspondingly, each supervising engineer's staff also includes an Environmental Surveillance Monitoring Specialist to monitor the implementation of the EMP and to manage other unforeseen environmental impacts. For details please see **Table 2-2**.

14. Before the construction activities commence, Contractor prepared and submitted other mitigation plans and method statements consistent with the EMP to Supervising Engineer (SE) for review and approval. Contract documents explicitly indicate the requirement of these plans and also state that all environmental protection measures should be included in the bid price.

15. Bidding documents and detailed design contracts are prepared and managed by the FIDC. Public consultations during the implementation of the EMP are arranged by the SE/PMO. The environmental specialist of FIDC examined the issued BDs and signed contracts. The environmental clauses have been incorporated into the design and procurement documents. The EMP has been attached in the BDs issued and civil works signed. The costs of all mitigation measures during construction have been covered in the issued bidding documents and signed contracts. The cost of civilized construction measures is included in the BOQs of all ten civil works contracts' bidding documents (BDs). Contractor Environmental Specifications attached in the PAM are included in the signed contract. Standard environmental clauses and sub clauses have been applied in the Standard Conditions of Contract (SCCs) 2.3(9), SCCs 19.3, 31.3 and 66 in the ten civil works contracts. Contractors' environmental monitoring reports are included in the SEs' monthly contract progress reports and submitted monthly, as recommended in the PAM. FIDC and the loan implementation environmental consultant (see **para. 16** below) review these monthly environmental monitoring reports and prepare quarterly environmental monitoring reports included in the Project quarterly progress reports. Contractor Environmental Specifications cover impacts on water resources, air quality, noise environment, traffic, adjoining properties, and utilities, human health and safety, flora and fauna, soil, disposal of waste, cultural heritage and other matters. The objective of these clauses is to reduce and

manage all potential environmental impacts caused by the construction activities. Construction work is carried out by qualified contractors and relevant sub-contractors. Contractor is responsible for implementing the mitigation and monitoring measures defined in the EMP. To meet these requirements each contractor has appointed an Environmental Officer to oversee this task who communicates closely with the rest of the team.

Table 2- 2 ENVIRONMENTAL PERSONNEL AND PERFORMANCE

Table 2-2-1: IAs' Environmental Personnel and Performance
From 1 January- 31 December 2017

Component	IA	IAs' Environmental Personnel			IAs' Environmental Performance
		Key Person		Contact	
C1.Civil works for access roads	FIDC	Deputy General Manager	Mr. Liu Haiquan	Cell: 13907946066, Tel: +86 794 8257866	Implemented the EMPs; supervised and coordinated the Contractors and SE's environmental work; and assisted in preparation of this 7th EMR.
		Engineer	Mr. Fan Long	Cell: 18296480180 Email: FZ_PMO@163.com	
C2. Civil works for BRT	FIDC (To be operated by Fuzhou Bus Company, under Fuzhou Transport Bureau)	Deputy General Manager	Mr. Liu Haiquan	Cell: 13907946066, Tel: +86 794 8257866	
		Engineer	Mr. Fan Long	Cell: 18296480180 Email: FZ_PMO@163.com	
C3. Civil works for bus terminals and transport hub	Fuzhou Bus Company (under Fuzhou Transport Bureau)	Section Chief of Fuzhou Transport Bureau	Mr. Huang Zhiqun	Cell: 13970437292	
		Officer of Fuzhou Transport Bureau	Mr.Liu Zhenhua	Cell: 15807049990	
C4.Civil works for Fenggang River improvement	FIDC	Deputy General Manager	Mr. Liu Haiquan	Cell: 13907946066, Tel: +86 794 8257866	
		Engineer	Mr. Fan Long	Cell: 18296480180 Email: FZ_PMO@163.com	
E5. Equipment	Fuzhou Bus Company (under Fuzhou Transport Bureau)	Section Chief of Fuzhou Transport Bureau	Mr. Huang Zhiqun	Cell: 13970437292	
		Officer of Fuzhou Transport Bureau	Liu Zhenhua	Cell: 15807049990	
DUTIES:					

- to refine and implement the EMP;
- to ensure the mitigation and monitoring measures recommended in the EMPs and EIAs are incorporated into the design and bidding documents;
- to supervise and coordinate implementation of mitigation measures and environmental monitoring in construction phase;
- to analyze environmental monitoring weekly reports；
- to organize environmental compliance monitoring;
- to monitor and coordinate environmental supervision;
- to establish, organize and carry out training plan;
- to establish and implement publish consultation plan; to prepare semi-annual progress reports and EMRs with assistance of the Consultant; and to undertake other related work as required.

Table 2-2 ENVIRONMENTAL PERSONNEL AND PERFORMANCE

Table 2-2-2: Contractors' Environmental Personnel and Performance for Ongoing Civil Works Contracts
From 1 January- 31 December 2017

Component	Contract	Contractor	Contractors' Environmental Personnel		Contractors' Environmental Performance
			Environmental Person	Contact	
C1. Civil works for access roads	C1.1 Waihuan Road Civil Works	Nanchang Road and Bridge Company	Mr. Li Xuan, Engineer	Cell: 13361667066 Email: Lixuan19870207@126.com	Completed and operational
	C1.2 Waihuan Road (K2+580-K3+060)	Jiangxi Tongwei Road Construction Group Co., Ltd.	Mr. Liu Shujing, manager/Wang Wenbang, EHS Engineer,	Cell: 15207945309 /15720909021	Overall satisfactory (main environmental concerns: plenty of spoil was observed being stockpiled along the road shoulders. Some construction waste was not covered. The contractors explained those spoils were dumped by nearby villagers. The construction sites looked not fully fenced. Access control should be enhanced. Site spoil management should be strengthened. For details please see the **Appendix 2 Site Visit Notes**)
	C1.3 Zhanqian Road (Yuming Road-Jinchao Road)	Guangxi Huanan Construction Group Co., Ltd.	Mr. Jie Yang, Site manger /Miss Liu Lijuan, EHS engineer	Cell: 13870482322 /13177661661, 1390579627@qq.com	
	C1.4 Gandong Road (Anshi Road-zhanqian Road)and Jinchao Road(Anshi - Zhanqian)	Kunpeng Construction Group Co., Ltd.	Mr. Huang Jiangao, Site manger /Mr. Du Xiaoliang, EHS engineer	Cell: 18907940607 /13807949111	
	C1.5 Zhanqian Road (Jinchao Road - Jinni),Jinchao Road (zhanqian－Jinni)	YichunTongda Road & Bridge Construction Co., Ltd.	Mr. Huang Zhenhua, Site manager /Miss Li Rong, EHS engineer	Cell: 18296499776 /15870786933	
	C1.6 Gandong Road (zhanqian－Jinni)	Zhushan Construction Group Co., Ltd.	Mr. Wan Hui, Site manager, /Mr. Huang Chungeng, EHS engineer	Cell: 15179404939/ 18379464247	
C2.Civil works for BRT		Joint Venture of Fujian Lugang (Group) Co., Ltd. (Leader) and Beijing LuAn Traffic Technology Development Co., Ltd.	n/a	n/a	Overall satisfactory
C3.Civil works for bus terminals and transport hub	C3.1. Bus company headquarter, bus and BRT terminals	Guangxi Jiangong	Mr. Yin and Mr. Li	To be added in the next EMR	Overall satisfactory

Component	Contract	Contractor	Contractors' Environmental Personnel		Contractors' Environmental Performance
			Environmental Person	Contact	
C4. Civil works for Fenggang River improvement	C4 Fenggang River Improvement (C4.1. Hydraulic and landscaping works C4.2. First section of landscaping works C4.3: Second section of landscaping works)	Jingxi Hongzhou Landscape Engineering Co., Ltd.	Mr. Yang Qizhu, manager/ Mr. Li Hua, EHS engineer	Cell: 13699597387/ 13979483998	Overall satisfactory
DUTIES: • to implement mitigation measures during construction phase; • to establish environmental monitoring plan and detailed action plan as needed; • to carry out environmental monitoring, maintain relevant records, produce weekly reports, and submit to the relevant SE and IA; • to participate relevant environmental training; • to assist with public consultation; • to assist with resolving environmental problems accoutered in construction; and to provide information and undertake other work as required.					

Table 2-2-3: SEs' Environmental Personnel and Performance for Ongoing Civil Works Contracts
From 1 January- 31 December 2017

Component	Contract	SE	SEs' Environmental Personnel		SEs' Environmental Performance
			Key Person	Contact	
C1. Civil works for access roads	C1.1 Waihuan Road Civil Works	Changda Supervision Co., Ltd.	Mr. Wu Shenrong, Site supervising engineer	Cell: 13479426408	Conducted environmental supervision; and prepared and regularly submitted monthly supervision reports.
	C1.2 Waihuan Road (K2+580-K3+060)	Changda Supervision Co., Ltd.	Mr. Zhang Yigeng, Engineer	Cell: 15697883428	
	C1.3 Zhanqian Road (Yuming Road-Jinchao Road)	Changda Supervision Co., Ltd.	Mr. Zhang Yigeng, EHS engineer	Cell: 15697883428	
	C1.4 Gandong Road(Anshi Road-zhanqian Road)and Jinchao Road(Anshi -Zhanqian)	Jiangxi Hengshi Construction Supervision Company	Mr. Zhang Hegeng, EHS engineer	Cell: 13677979595	
	C1.5 Zhanqian Road (Jinchao Road - Jinni),Jinchao Road (zhanqian－Jinni)	Jiangxi Hengshi Construction Supervision Company	Mr. Zou Guisheng, Engineer	Cell: 18970475156	
	C1.6 Gandong Road (zhanqian－Jinni)	Changda Supervision Co., Ltd.	Mr. Zhang Huiming, EHS engineer	Cell: 13879493605	
C2.Civil works for BRT		Joint Venture of Fujian Lugang (Group) Co., Ltd. (Leader) and Beijing LuAn Traffic Technology Development Co., Ltd.	n/a	n/a	Conducted environmental supervision; and prepared and regularly submitted monthly supervision reports.
C3.Civil works for bus terminals and transport hub	C3.1. Bus company headquarter, bus and BRT terminals	Changda Supervision Co., Ltd.	Mr. Zhang Huiming, EHS engineer	Cell: 13879493605	Conducted environmental supervision; and prepared and regularly submitted monthly supervision reports.
C4. Civil works for Fenggang River improvement	C4 Fenggang River Improvement (C4.1. Hydraulic and landscaping works C4.2. First section of landscaping works C4.3: Second section of landscaping works)	Guangdong Hehai Construction Engineering Company /	Mr. Li Haihong, hydraulic engineer	Cell: 15070425431/	
		Jiangxi Zhongxiang Construction Supervision Company	Mr. Li Xingming, landscaping engineer,	Cell: 13970429412	

Component	Contract	SE	SEs' Environmental Personnel		SEs' Environmental Performance
			Key Person	Contact	
DUTIES: • to participate various review meetings and recommend environmental improvement to construction arrangements, technical issues, progress etc.; • to review environmental performance of construction equipment; • to supervise the implementation and any changes of mitigation measures; • to inspect ambient environment and impacts; • to report and help to deal with any environmental problems or accidents encountered; • to prepare monthly environmental supervision reports and submit to FZPMO and the respective IA; and • to participate in construction completion audit in terms of environmental aspects, and submit related reports or certification as needed.					

Table 2-2 ENVIRONMENTAL PERSONNEL AND PERFORMANCE

Table 2-2-4: Other Supervision Agencies' Environmental Personnel and Performance for Ongoing Civil Works Contracts

From 1 January- 31 December 2017

Component	Other Supervision Agencies	Supervision Agencies' Environmental Personnel		Supervision Agencies' Environmental Personnel Performance
		Key Person	Contact	
C1. Civil works for access roads **C2.Civil works for BRT** **C3.Civil works for bus terminals and transport hub** **C4. Civil works for Fenggang River improvement**	Jiangxi EPB/Fuzhou EPB (Fuzhou Environmental Supervision Team),	Miss. Zou Xiaohong, Fuzhou EPB /Miss Li Hua	Tel: 0794-12369 Cell: 13979483998	Implemented and complied with environmental monitoring, and implementation supervision of mitigation measures
	Fuzhou PMO	-	-	
	Design Institute (including Jiangxi Zhongmei Engineering Group. Ltd.,/ Xiameng Zhongping Road Survey And DI Co., Ltd.)	Miss Ouyang Chuzhu, landscaping Engineer/Mr. Fan Chengkang	Cell:15216263423 / 13879481306	
	Independent Environmental Monitoring Expert	Mr. Nie Mingtao	Cell: 18086056438 Email:hjpmo@163.com	

16. **Loan implementation environmental consultant.** Except the independent external environmental consultant, the FIDC and the Loan implementation consultant (EED) entrusted an environmental consultant to support environmental management, monitoring, supervising and prepare the environmental part in the Project quarterly progress reports. So far, the Loan implementation environmental consulting work is underway.

III. COMPLIANCE WITH ENVIRONMENT RELATED PROJECT COVENANTS

17. So far, all due environmental covenants in Loan Agreement and Project Agreement are in compliance, with some still to be enacted.

18. The environmental requirements in the MOU of last ADB mission are being complied with so far. For details see **paras. 7~10** (environmental due diligence)**, 20~21**(onsite environmental management improvement)**, section D of Chapter V** (monitoring and evaluation)**, Chapter VI** (GRM and public consultation)**, and Appendix 5 (**Public and Agency Comments and Responses) of this report.

IV. ENVIRONMENTAL MITIGATION AND COMPENSATION MEASURES IMPLEMENTED IN THE REPORTING PERIOD

19. Potential environmental impacts of the Project and the mitigation measures during this reporting period are summarized in **Appendix 3.** The implementation status of the mitigation measures are summarized in the last columns of the tables for comparison with the designed mitigation measures stated in the EMP. In summary, the mitigation measures have to date been implemented effectively. EMP requirements for each contract are confirmed generally good compliance during site visits, as shown in **Appendix 2**.

20. During the ADB loan review mission in November 2017, site environmental management (*garage and construction waste randomly disposed without proper collection; several construction sites without appropriate fences; BRT alignment road traffic control inadequate; electricity lines exposed without proper protections; construction workers not equipped with personal protection equipment; and excavated trench no presence of necessary supporting measures*) issues were raised. To address those comments, FIDC immediately urged the constructors and SEs to improve onsite environmental management. The contractors and SEs organized relevant training to the onsite construction workers in order to raise their environmental awareness and facilitate sound construction practice based on the CEMPs; and strengthen supervision and environmental monitoring. In December 2017 respectively, FIDC and the independent external environmental consultant undertook further training and inspected all the construction sites and confirmed general compliance (for more details please see the **paras. 30 to 33** in the **section D** of **Chapter V** below, **Appendix 2 Site Visit Notes** and **Appendix 3**).

21. **Environmental mitigation cost and benefits data collection.** The project will contribute to positive cumulative effects of the area urban development, through an increase in socioeconomic opportunities and standards of living, provision of new amenity resources (linear urban park), and improved public transport provision which will encourage modal shift and contribute to a reduction in congestion and emissions. The Fenggang River Improvement works are expected to have medium to long-term benefits by reducing flood risk to the new urban area and downstream areas through improved flood storage capacity (please refer to the **para.9**). These benefits data are often difficult to accumulate at project completion review (PCR) stage in short notice. Since the three components (including some station access roads, Fenggang river improvement, and urban public transport hub) will be finished by mid-2018, the environmental mitigation cost and benefits data should be collected and reported in the future EMRs and project progress reports. In Dec 2017, the external environmental monitoring consultant provided related training and disseminated the sample contract completion environmental data list to the contractors and CSCs. In the next (8^{th}) reporting period, the external environmental monitoring consultant will further collect environmental mitigation cost and benefits data, and report those with the domestic completion check and acceptance preparation status in the 8^{th} EMR due 31 Jul 2018.

V. SUMMARY OF ENVIRONMENTAL MONITORING

A. Achievements of Design and Monitoring Framework (DMF) Indicators

22. The Impact indicators in the DMF have one closely relating to environment, i.e. average concentrations of carbon monoxide and nitrogen dioxide in Fuzhou staying at current levels until 2020. The outcome indicators in DMF have an indicator closely relating to environment, i.e. Fenggang River Flood frequency reduced from annual to once in 20 years. Based on the above, FIDC is working with the independent external environmental consultant to collect the relevant data in terms of environmental management. As alternatives, the following data from Fuzhou EPB was provided by Fuzhou EPB.

- PM_{10}: 0.065 mg/m^3, $PM_{2.5}$: 0.048 mg/m^3; in total 129 Days of Class I, 184 Days of Class II, and 52 days worse than Class II.

(PM_{10}: 0.150 mg/m^3, $PM_{2.5}$: 0.075 mg/m^3; CO: 4 mg/m^3, NO_2:0.080 mg/m^3, SO_2: 0.150 mg/m^3 (daily average) in Ambient Air Quality Standards, GB 3095-2012, Class I

From the below figures, the urban air quality (AQI) of Fuzhou city remained healthy through 2015~2017, except there was a serious pollution incurred in Q1 of 2017. In addition, the average concentrations of carbon monoxide [2] and nitrogen dioxide in Fuzhou stayed stable during 2015~2017.

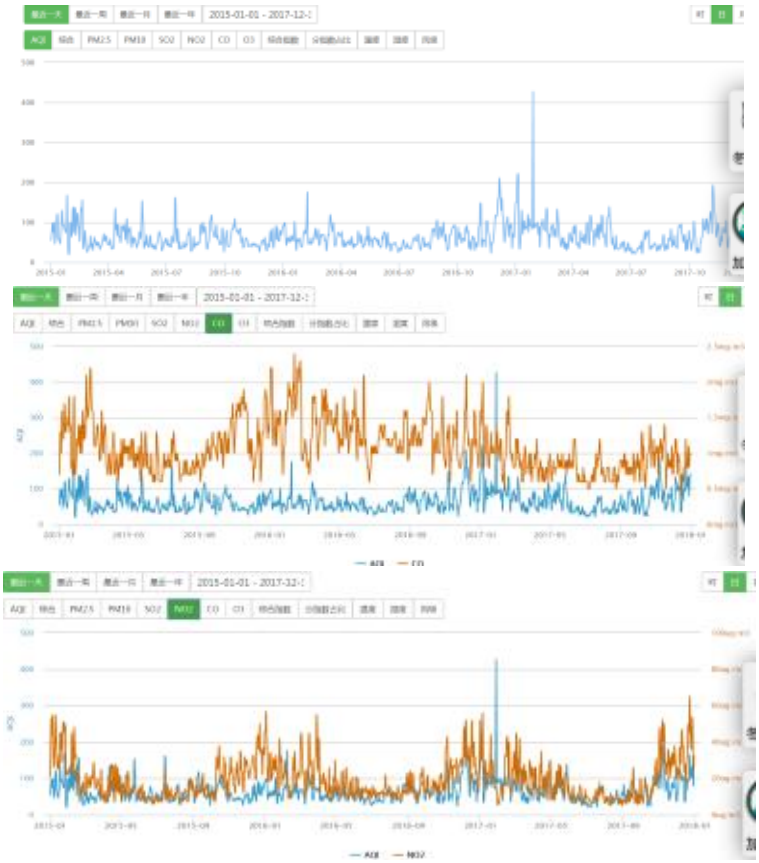


Figure 5- 1 Chart of Fuzhou City Urban Air Quality in 2017 (AQI, CO and NO_2)

[2] It was informed by Fuzhou EPB that no regular carbon monoxide monitoring had been done in Fuzhou City until 2015.

23. According to the information from the website of Fuzhou municipal government[3], the output 3 Fenggang River greenway (phase 2) under this ADB project is part of Fenggang River basin rehabilitation project, which will be completed by Dec 2019, by when Fenggang River Flood frequency will be reduced from annual to once in 20 years.

B. Environmental quality targets

24. The Project's environmentally sensitive receptors are listed in **Table 5-1** below.

Table 5-1 List of Environmentally Sensitive Receptors

Item	Type of Objective	Environmentally Sensitive Receptors	Location
Water	Surface Water	Fenggang River (Class III of **Environmental Quality Standard for Surface Water (GB3838-2002)**)	
Noise and air	Residential area nearby	(i) Xianxiyao Village (Intersection of Waihuan Rd and Chonggang Rd.). (ii)Guojialing Village-1 (Intersection of Gandong Ave., No.1 Zhanbei Rd. and Zhanqian Rd.) (iii)Guojialing Village-2 (Intersection of Gandong Ave. and Zhanqian Rd.) (iv)Guojialing Village-3 (Intersection Of Gandong Ave.) (v)Jinjia Village (Jinchao Ave.) (vi)Gongjia Village (North of Jinchao Ave., East of Weier Rd.) (Class II of Environment Ambient Air Quality Standard (GB3095—2012) and Class II Environmental Quality Standard for Noise (GB3096-2008))	80m to the property line; 45m to the property line; 50m to the property line; 60m to the property line; 28m to the property line; 40m to the property line;
Ecological Environment/ Soil Erosion	Farmland ; Earth borrow pit ; High filled and deep excavated road sections; Landscape	Total area is 3248.68mu including 2296.5mu farmland; Affected vegetation, cultivated land, soil erosion and landscape; Affected vegetation, cultivated land, soil erosion and landscape; Alignments and structures; harmony with the surrounding landscape	Along the road ; Along the road ; High filled sections； Deep excavated sections： Along the road

C. Environmental Monitoring plan and responsibilities

25. Based on the EMP and Chinese EIA, an environmental monitoring program is presented in **Table 5-2**. This program considers the scope of monitoring; monitoring parameters; time and frequency; and implementing and supervising agencies. The monitoring follows the methodology provided in the national standard methods for monitoring pollutants. Other associated standards are national environmental quality standards and pollutant emission standards. The environmental monitoring will be undertaken on a semi-annual basis.

[3] Fuzhou daily on 26 May 2017, http://www.xunart.com/b52074.html

Table 5- 2 Environmental Monitoring Program Defined in EMP

Component	Location	Parameter	Frequency	Duration	Who Implements	Who Supervise	Implementation status
Construction							
Air Quality	Sensitive locations around construction sites - 6 sites	TSP	Quarterly-3 consecutive days	3 years	Independent external environmental consultant	Fuzhou EPB, FZPMO	Complied with. For details please see **Section D.**
Acoustic Quality		Noise	Monthly -1 day	3 years			
Water Quality	Fenggang River – 4 points	SS, COD, Oil/grease	Quarterly - 1 day	3 years			
Operation							
Air Quality	Main trunk roads and sensitive locations	Exhaust	Randomly	Continuous	Qualified Environmental Monitor	Fuzhou EPB	Not yet due.
		Atmosphere	Once every season	Continuous			
Acoustic Quality		Transport Noise	Daytime once and nighttime once, annually - 2 consecutive days	Continuous			

26. **Environmental monitoring sampling arrangements**. The work scope for the environmental monitoring of the Project requires:

    a) For the components during construction period, the location and time of monitoring is determined according to the actual construction progress, activities and routes.

    b) For the components under operation, the monitoring locations are selected near sensitive sections, such as residential areas, schools, etc.

27. **Selection of water quality monitoring sections.** Four water quality monitoring sections in the Fenggang River (phase II) were selected to monitor operation impacts in Jan 2018. The environmental monitoring sections mainly referred to the domestic EIA report, in which the inlet section from Fenggang River directly to Fu River was monitored originally. But the section at the direct inlet from Fenggang River to Fuhe River does no longer exist now because the water route has been changed through other domestic hydraulic projects. Actually currently Fenggang River flows to Linshui River then into Fuhe River. There is no change for other sections in Fenggang River. It was recommended to alter the monitoring section to the inlet from Fenggang River to Linshui River and can reflect the water quality of effluent of Fenggang River. For details see the **Table 5-6** (section #SW 4, also see the below figure).

28. **Selection of noise and air quality sensitive locations around construction sites-6 sites.** In the environmental monitoring plan of the EMP approved by ADB, no detailed noise and atmosphere monitoring locations have been designated. However, in the domestic EIA report, six noise and air quality sensitive locations around construction sites were monitored as environmental baseline. Among of them, three noise and atmosphere sensitive locations in Guojialin Village were monitored. Based on discussion with FIDC, three points for road operational impacts (A2&N2, A3&N3 and A4&N4), one point (A7&N7) for public transport hub construction impacts, and two points (A8&N8 and A9&N9) for BRT corridor construction impacts were selected in Jan 2018. **Table 5-10** and the below figure include the details.

Figure 5- 2 Locations of the Water, Air and Noise Monitoring Points/Sections

29. The detailed sampling arrangements **in this reporting period** are shown in **Table 5-3**.

Table 5- 3 Environmental Monitoring Sampling Arrangements for this Reporting Period

Subject	Parameter	Location	Time &Frequency
Surface water quality	SS, oil, COD_{Cr}	4 sections of Fenggang River (details see the **Table 5-6**): Intersection of Fenggang River and Chonggang Ave.; Intersection of Fenggang River and Zhanqian Ave.; Intersection of Fenggang River and Linchuan Ave.; The inlet from Fenggang River to Linshui River.	once per day, for 3 consecutive days , twice per year including once in dry season and once in rainy season
Air quality	TSP	All 6 sensitive receivers near boundary of the construction sites(details see the **Table 5-10**): Public transport hub Guojialing Village Jingjia Village Gongjia Village BRT Bubugao bus station BRT Majiashan square bus station.	once per day for 3 consecutive days, twice per year.
Acoustic environment	Leq(dB(A))		twice a year: twice a day each time ,once during daytime, once during nighttime.

Table 5-4 shows the standard monitoring methods, detection limits, and the standard limit for each of the monitoring parameters. No non-compliances occurred in this or previous reporting periods. For details please see the below **paras. 30 to 41**.

Table 5- 4 Standard Monitoring Methods of Ambient Air, Noise and Water

Media	Monitoring Parameter	Method (Standard No.)	Detection Limit	Standard Limit
Surface water	SS (mg/L)	Gravimetric method (GB11901-89)	4	250
	Petroleum (mg/L)	Water quality- Determination of petroleum oils and animal and vegetable oils- Infrared spectrophotometry(HJ 637-2012)	0.01	0.01
	COD_{Cr}(mg/L)	Water quality-Determination of the chemical oxygen demand-Dichromate method (GB 11914-89)	0.5	20
Air	TSP (mg/m^3)	Gravimetric (GB/T15432-1995)	0.001	0.30
Noise	Equivalent Continuous A Sound (Leq)	Environmental quality standard for noise (GB3096-2008)	0.5	60 (day)/ 50 (night)

D. Monitoring Results and Assessment

1. Emission Discharge (Source) Monitoring Results

a. Results of Discharge (Source) Monitoring

30. FZPMO and the SEs regularly inspect the environmental status of the construction sites. Fuzhou Environmental Supervision Team, Fuzhou EPB, also periodically conducted site inspections to check compliance status. Environmental monitoring was carried out by the contractors.

31. In December 2017, the independent external environmental consultant visited the work sites of the road civil works Contracts C1.2/1.3/1.4/1.5, C2 for BRT civil works, C3.1 for Public Transport Terminal and Hub and the contracts C4.1/4.2/4.3 for Fenggang River Improvement (Phase II) which is under construction. The site visit notes are shown in **Appendix 2**.

b. Assessment

32. To date site audits and environmental environmental checks have not identified any significant environmental impacts. The quality of discharge of construction waste, water, and control of dust and noise have all been at acceptable levels and site management has been improved, more details are provided in **Appendix 2**.

33. During site audits, it has still been observed that plenty of spoil was being stockpiled along the four roads' shoulders. Some construction waste was not covered. The contractors explained those spoils were dumped by nearby villagers. Site spoil management should be strengthened. The construction sites looked not fully fenced. Access control should be enhanced. Further mitigation measures and clean-up will be required before the next rainy season (April to August each year). In addition, the constructors/SEs' environmental monitoring and documentation should be further improved to ensure effective implementation of EMP and mutually reinforce environmental monitoring.

2. Ambient Monitoring Program

a. Results

34. As the original environmental monitoring consulting service contract was due in January 2017, and its extension was signed in December 2017. So no field sampling and laboratory testing were undertaken in 2017. Therefore, the regular surface water environmental monitoring data by Fuzhou EPB in 2017 is cited below for reference. In 2017, the overall water quality at four monitoring sections of Fenggang River only met the Environment Quality Standard of Surface Water (GB3838—2002), Class IV, shown in the below table, and did not comply with its water function as Class III. The incompliance was mainly contributed by excessive CODcr and TP, possibly due to uncontrolled industrial wastewater, construction wastewater pollution and stormwater into the river (source: FMG http://xxgk.jxfz.gov.cn/bmgkxx/hbj/gzdt/zwdt/201712/t20171211_3415981.htm) .

Figure 5- 3 Fenggang River Water Quality Monitoring Sections by Fuzhou EPB

Table 5- 5 Fenggang River Water Quality Monitoring Results by Fuzhou EPB (Jan to Sept. 2017)

No.	Locations of section	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept.	Applicable standard	Compliance status (%)
RW1	Xiaojiaqiao	III	IV	IV	IV	IV	IV	III	IV	IV	Environment Quality Standard of Surface Water (GB3838—2002), Class III	11%
RW2	Zhongingqiao	IV	III	IV	IV	IV	III	IV	III	IV		22%
RW3	Gong'anju	IV	IV	IV	IV	IV	III	IV	IV	III		11%
RW4	Gaoqiao	IV	III	IV	IV	IV	IV	IV	IV	IV		0%

Source: http://www.fzhbj.gov.cn/hjjc/hjzkgb/

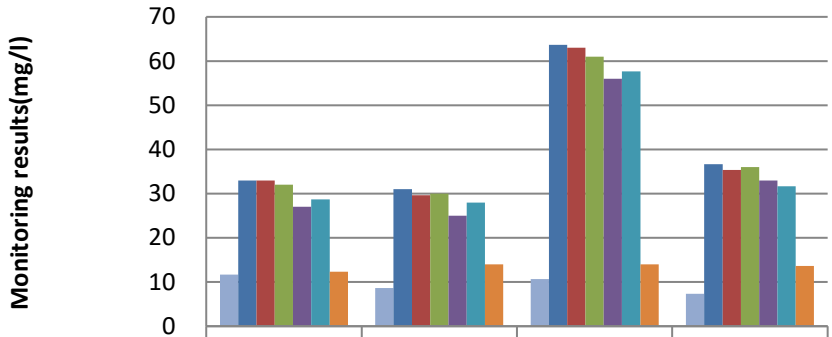
35. The summary of the water quality monitoring data in Jan 2018 is shown in **Table 5-6** for the Fenggang River. According to the results, it is found that the concentrations of SS, and Petroleum at all monitoring locations meet the Environment Quality Standard of Surface Water (GB3838—2002), Class III, whilst the concentrations of COD_{Cr} exceeded the standard limit by 5% to 70%. This is consistent with the regular surface water environmental monitoring data by Fuzhou EPB in 2017, shown in the above **para. 32**. Therefore, the exceedance of COD_{Cr} might be due to high background COD_{Cr} level.

Table 5- 6 Summary of water quality monitoring data

No.	Location/ River section	Sampling date/time	Monitoring results(mg/l)			Compliance Status
			SS	COD_{Cr}	Petroleum	
SW1	Intersection of Fenggang River and Chonggang Ave. （E116°22′ 27″ N27°54′ 57″ ）	6 Jan, 2018	12	31	0.02L	Complied with
		7 Jan, 2018	13	34	0.04 L	Complied with
		8 Jan, 2018	12	30	0.03 L	Complied with
SW2	Intersection of Fenggang River and Zhanqian Ave. （E116°21′ 7″ N27°55′ 31″ ）	6 Jan, 2018	15	20	0.03 L	Complied with
		7 Jan, 2018	14	22	0.04 L	Complied with
		8 Jan, 2018	13	21	0.03 L	Complied with
SW3	Intersection of Fenggang River and Linchuan Ave. （E116°20′ 25″ N27°56′ 11″ ）	6 Jan, 2018	14	22	0.03 L	Complied with
		7 Jan, 2018	15	24	0.03 L	Complied with
		8 Jan, 2018	13	23	0.03 L	Complied with
SW4	The inlet from Fenggang River to Linshui River （E116°20′ 44″ N27°56′ 19″ ）	6 Jan, 2018	14	23	0.03 L	Complied with
		7 Jan, 2018	15	26	0.03 L	Complied with
		8 Jan, 2018	12	25	0.02 L	Complied with
Environment Quality Standard of Surface Water (GB3838—2002) Class III			N/A	<=20	<=0.05	
Standards for irrigation water quality(Standards for irrigation water quality)[4]			<=100			

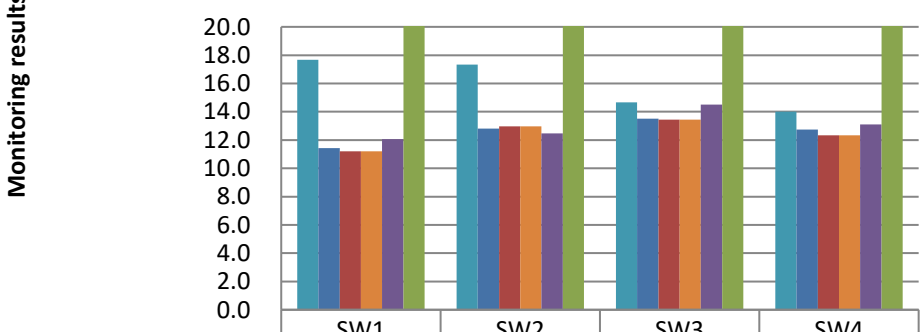
[4]Issued by Ministry of Environmental Protection only as reference here.

Summary Of Water Quality Monitoring Data(SS)

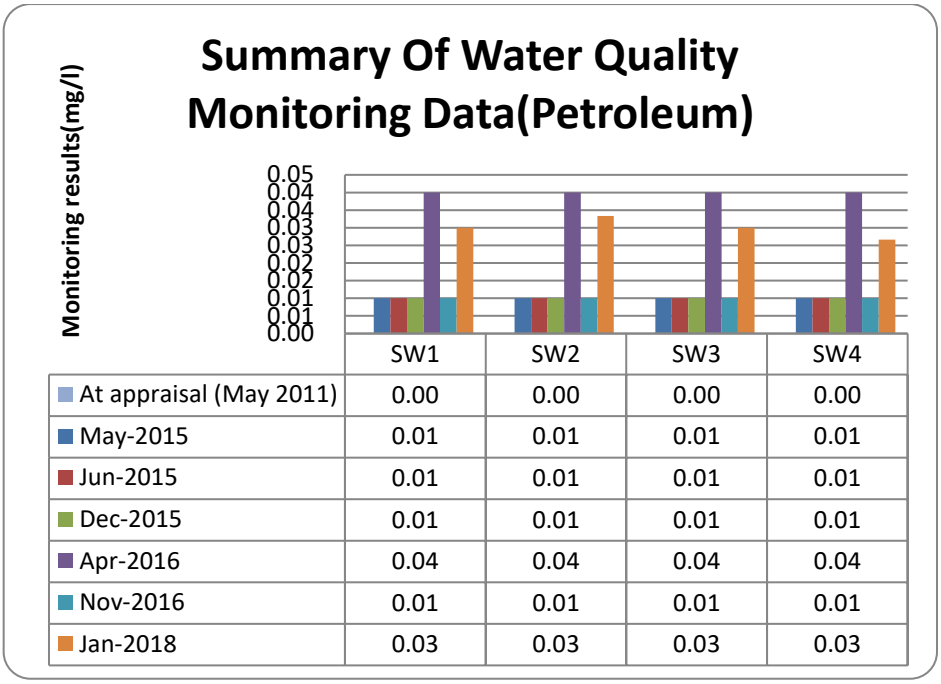


	SW1	SW2	SW3	SW4
At appraisal (May 2011)	12	9	11	7
May-2015	33	31	64	37
Jun-2015	33	30	63	35
Dec-2015	32	30	61	36
Apr-2016	27	25	56	33
Nov-2016	29	28	58	32
Jan-2018	12	14	14	14

Summary Of Water Quality Monitoring Data(CODCr)



	SW1	SW2	SW3	SW4
At appraisal (May 2011)	17.7	17.3	14.7	14.0
May-2015	11.4	12.8	13.5	12.7
Jun-2015	11.2	13.0	13.4	12.3
Dec-2015	11.2	13.0	13.4	12.3
Nov-2016	12.1	12.5	14.5	13.1
Jan-2018	31.7	21.0	23.0	24.7



36. As the original environmental monitoring consulting service contract was due in January 2017, and its extension was signed in December 2017. So no field sampling and laboratory testing were undertaken in 2017. Therefore, the regular environmental monitoring data by Fuzhou EPB in 2017 is cited below for reference. The main results related to this Project are summarized below. 85% of days' air quality were good or excellent during 2017. Those indicated good baseline environmental quality in whole Fuzhou City.

Table 5- 7 Summary of Fuzhou City Monthly Air Quality in 2017

Month	Air Quality						
	Excellent days	Good days	Minor pollution days	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	Frequency of Precipitation	Frequency of acid rain (pH less than 5.65)
Total	129	184	52			105	
Average	35%	50%	14%	65	48		Coal-burning pollution
Jan	2	18	11	112	89	8	68.8%
Feb	2	22	4	82	63	5	80%
Mar	12	17	2	61	43	19	34.2%
Apr	8	20	2	63	40	11	18.2%
May	3	21	7	63	41	9	44.4%
Jun	25	5	0	33	23	18	0
Jul	20	11	0	43	27	3	0
Aug	25	6	0	38	26	7	0
Sep	12	18	0	46	36	2	50%
Oct	11	17	3	49	46	6	33.3%
Nov	5	16	9	89	67	12	0
Dec	4	13	14	97	72	5	0
Air Quality Standard (GB3095-2012)	**Class I**	**Class II**	**Worse than Class II**	**150 (Class II)**	**75 (Class II)**		

AQI	Air Quality	Health Implications
0–50	Excellent	No air pollution.
51–100	Good	Few hypersensitive individuals should reduce the time for outdoor activities.
101–150	Minor pollution	Slight irritations may occur, children, and those who with breathing or heart problems should reduce outdoor exercise.

Note: As the new standard of measurement for air quality, AQI is a quantitative description of the air quality index. The major pollutants involved in the analysis including fine particulate matter ($PM_{2.5}$), inhalable particles (PM_{10}), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone (O_3), carbon monoxide (CO).According to “Technical Regulation on Ambient Air Quality Index (on trial)” (HJ633-2012), AQI is divided into six levels in total, with Level one being the best and Level six being the worst.

Table 5- 8 Summary of Fuzhou City Monthly Air Quality in 2017, Maximum and Minimum Pollutant Concentrations

	Class II of Air Quality Standard (GB3095—2012)	Maximum		Minimum	
		Value	Date	Value	Date
AQI		427	28 Jan	22	7 Jul
PM_{10}	150(μg/m^3)	497	28 Jan	16	15 Oct
$PM_{2.5}$	75(μg/m^3)	390	28 Jan	11 8 Jul	
SO_2	150(μg/m^3)	140	28 Jan	6	various days through the year
NO_2	80(μg/m^3)	65	23 Dec	5	31 Jan/30 Aug

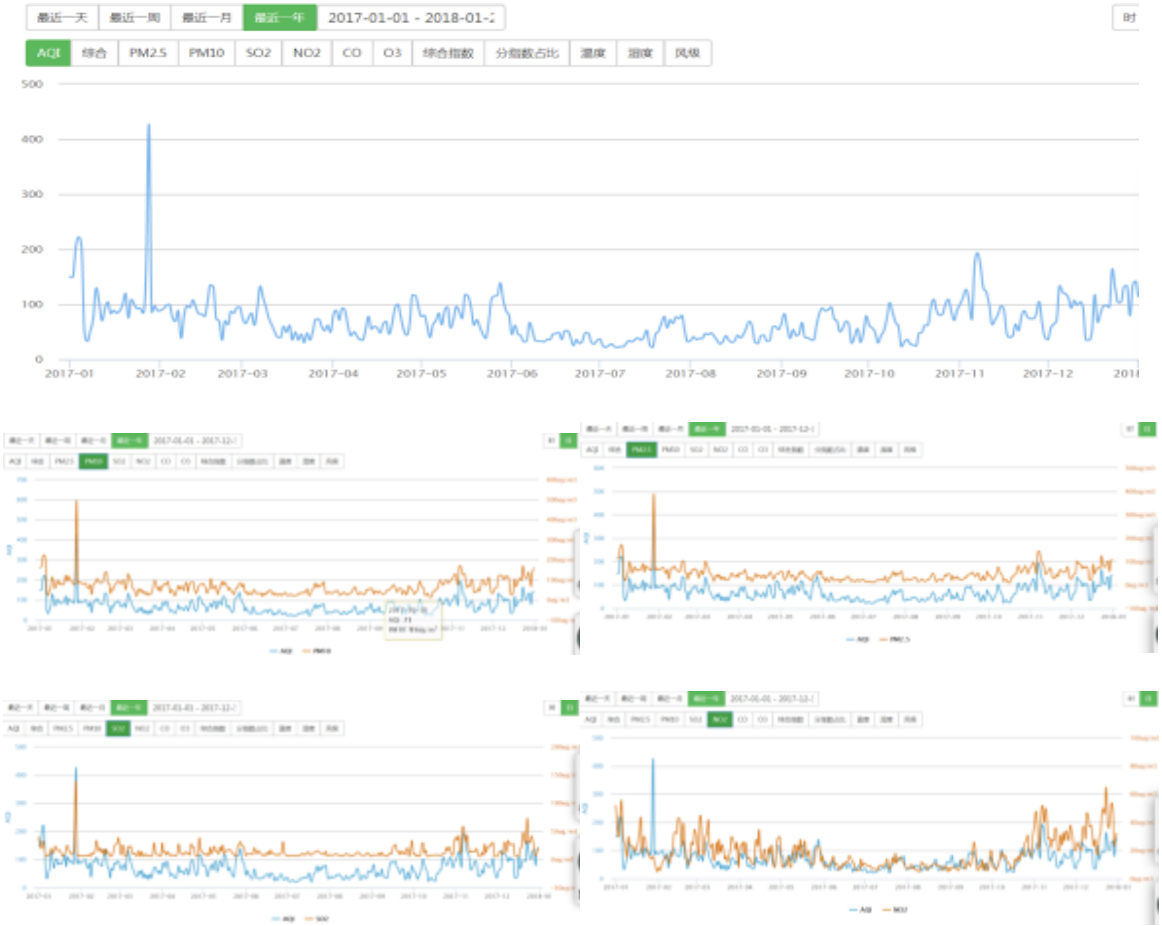


Figure 5- 4 Charts of Fuzhou City Monthly Air Quality in 2017 (AQI, PM_{10}, $PM_{2.5}$, SO_2 and NO_2)

37. There are five regular air quality monitoring stations established in Fuzhou urban area. Among of them, four (RA1- Caicha opera, RA2- Municipal EMS, RA4- Disease prevention hospital, and Ra5- the Medical school) are located at a distance of 400m to 900m to the BRT corridor or the Fenggang River alignment, so deemed relevant to this Project, as shown below.

Figure 5- 5 Map of regular air quality monitoring stations in Fuzhou urban area by FZEPB

Figure 5- 6 Geographic relationships between the monitoring stations RA1 to RA4 with the Project

Table 5- 9 Air quality monitoring results of the monitoring stations RA1 to RA4 in 2017

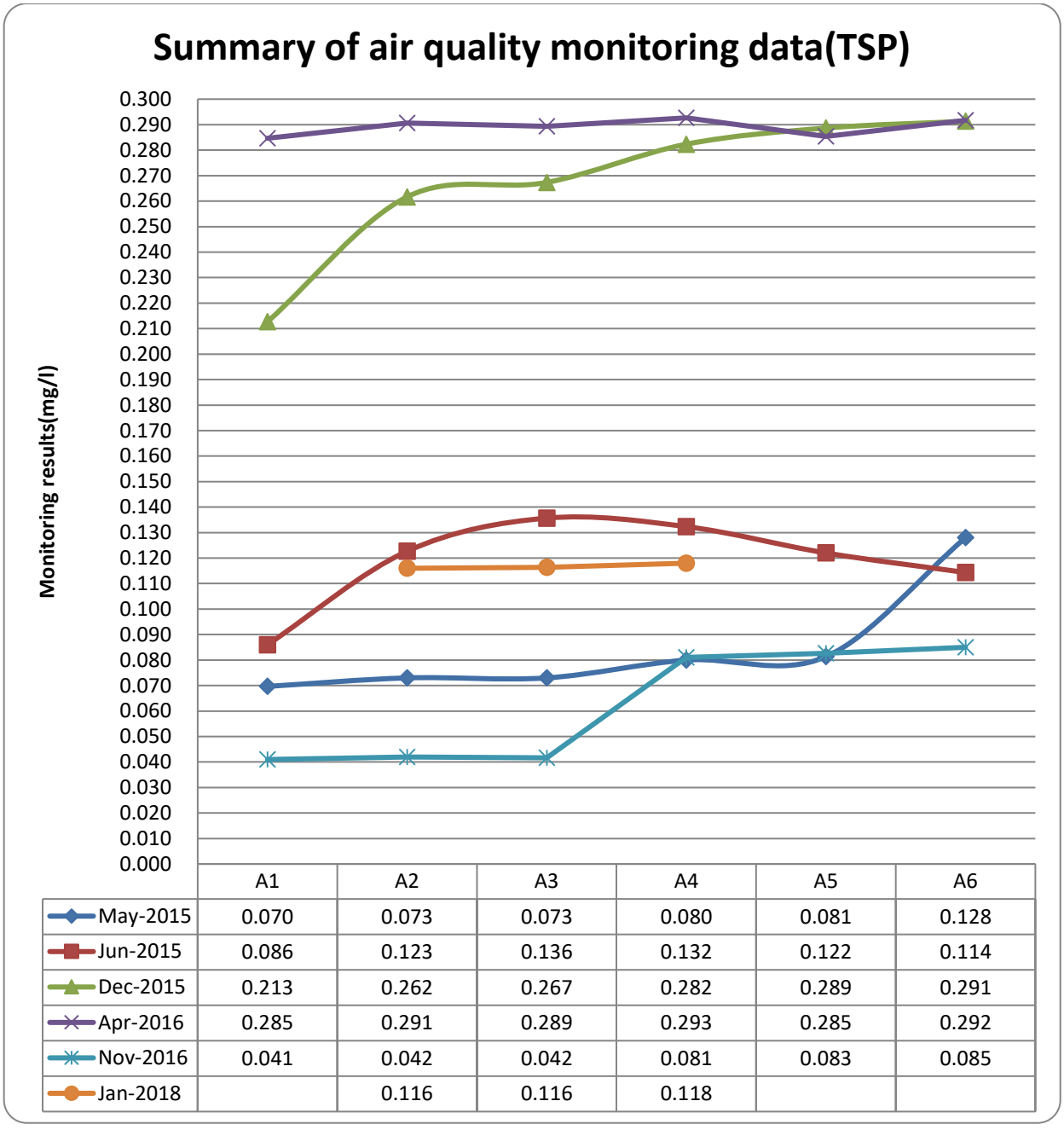
	Class II of Air Quality Standard (GB3095—2012)	RA1	RA2	RA4	RA5
AQI		101	95	95	85
PM_{10}	150(μg/m^3)	100	94	92	90
$PM_{2.5}$	75(μg/m^3)	75	70	70	62
SO_2	150(μg/m^3)	23	22	24	22
NO_2	80(μg/m^3)	36	39	30	29
CO	4(mg/m^3)	1.52	1.339	1.285	1.078

Figure 5- 7 **Air quality monitoring results of the monitoring stations RA1 to RA4 in 2017**

38. Construction stage ambient air monitoring data in January 2018 is shown in **Table 5-10** for the 6 sensitive receptors. The daily average concentrations of TSP, meet Environment Ambient Air Quality Standard (GB3095—2012) Class II. The diagrams below compare noise data for the period May 2015 and November 2016, there has been no significant change during this monitoring period.

Table 5- 10 Summary of air quality monitoring data

No.	Location	Sampling date/time	Monitoring results(mg/l)	Compliance Status
			TSP	
A7#（E116°20′59″ N27°55′27″）	Public transport hub	6 Jan, 2018	0.119	Complied with
		7 Jan, 2018	0.114	Complied with
		8 Jan, 2018	0.120	Complied with
A2#（E116°21′30″ N27°55′42″）	Guojialing Village	6 Jan, 2018	0.118	Complied with
		7 Jan, 2018	0.112	Complied with
		8 Jan, 2018	0.118	Complied with
A3#（E116°22′12″ N27°55′44″）	Jingjia Village	6 Jan, 2018	0.114	Complied with
		7 Jan, 2018	0.118	Complied with
		8 Jan, 2018	0.117	Complied with
A4#（E116°22′10″ N27°55′36″）	Gongjia Village	6 Jan, 2018	0.118	Complied with
		7 Jan, 2018	0.115	Complied with
		8 Jan, 2018	0.121	Complied with
A8#（E116°21′31″ N27°56′8″）	BRT Bubugao bus station	6 Jan, 2018	0.115	Complied with
		7 Jan, 2018	0.114	Complied with
		8 Jan, 2018	0.117	Complied with
A9#（E116°21′5″ N27°56′4″）	BRT Majiashan square bus station	6 Jan, 2018	0.117	Complied with
		7 Jan, 2018	0.117	Complied with
		8 Jan, 2018	0.120	Complied with
Environment Ambient Air Quality Standard (GB3095—2012) Class II			0.30	



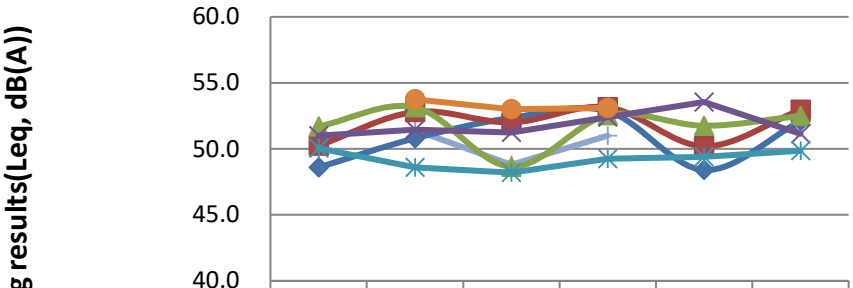
	A1	A2	A3	A4	A5	A6
May-2015	0.070	0.073	0.073	0.080	0.081	0.128
Jun-2015	0.086	0.123	0.136	0.132	0.122	0.114
Dec-2015	0.213	0.262	0.267	0.282	0.289	0.291
Apr-2016	0.285	0.291	0.289	0.293	0.285	0.292
Nov-2016	0.041	0.042	0.042	0.081	0.083	0.085
Jan-2018		0.116	0.116	0.118		

39. **Table 5-11** shows the daytime and nighttime noise monitoring results in Jan 2018 for the 3 construction sites and 3 sensitive receptors nearby the construction sites. The noise monitored at these points has met Class II and 4a of Environmental Quality Standard for Noise (GB3096-2008). Adverse impacts were limited due to implementation of appropriate mitigation measures. The diagrams below compare noise data for the period May 2015 and November 2016, there has been no significant change during this monitoring period.

Table 5- 11 Summary of acoustic quality monitoring data

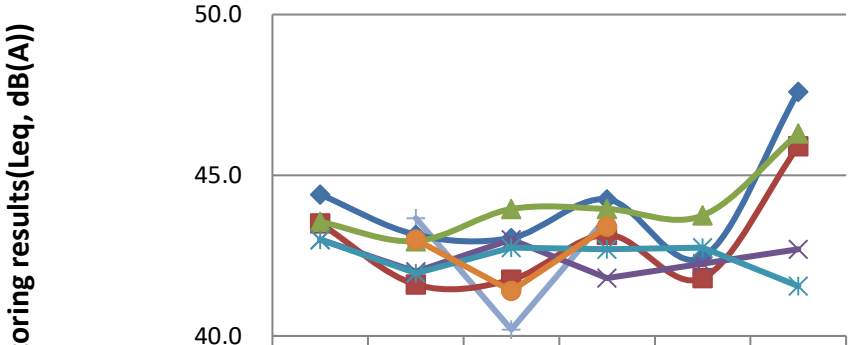
No.	Location	Sampling date/time	Monitoring results(Leq, dB(A))		Compliance Status
			Daytime	Nighttime	
N7#（E116°20′59″ N27°55′27″）	Public transport hub (traffic noise)	6 Jan, 2018	64.5	52.7	Complied with
		7 Jan, 2018	63.4	51.7	Complied with
N2#（E116°21′30″ N27°55′42″）	Guojialing Village (ambient noise)	6 Jan, 2018	52.9	42.9	Complied with
		7 Jan, 2018	54.6	43.1	Complied with
N3#（E116°22′12″ N27°55′44″）	Jingjia Village (ambient noise)	6 Jan, 2018	52.4	41	Complied with
		7 Jan, 2018	53.6	41.8	Complied with
N4#（E116°22′10″ N27°55′36″）	Gongjia Village (ambient noise)	6 Jan, 2018	53.4	43	Complied with
		7 Jan, 2018	52.8	43.8	Complied with
N8#（E116°21′31″ N27°56′8″）	BRT Bubugao bus station(traffic noise)	6 Jan, 2018	63.9	51.5	Complied with
		7 Jan, 2018	64.4	52.8	Complied with
N9#（E116°21′5″ N27°56′4″）	BRT Majiashan square bus station(traffic noise)	6 Jan, 2018	62.8	51.8	Complied with
		7 Jan, 2018	65.5	50.4	Complied with
Environmental Quality Standard for Noise (GB3096-2008), Class II (ambient noise for N2#, N3#, N4#)			60	50	
Environmental Quality Standard for Noise (GB3096-2008), Class 4a (ambient noise for N1#, N8#, N9#)			70	55	

Summary Of Acoustic Quality Monitoring Data(Daytime)



	N1	N2	N3	N4	N5	N6
At appraisal (May 2011)		51	49	51		
May-2015	49	51	52	53	48	52
Jun-2015	50	53	52	53	50	53
Dec-2015	52	53	49	53	52	53
Apr-2016	51	51	51	52	54	51
Nov-16	50	49	48	49	49	50
Jan-2018		54	53	53		

Summary Of Acoustic Quality Monitoring Data(Nighttime)



	N1	N2	N3	N4	N5	N6
At appraisal (May 2011)		44	40	44		
May-2015	44	43	43	44	42	48
Jun-2015	44	42	42	43	42	46
Dec-2015	44	43	44	44	44	46
Apr-2016	43	42	43	42	42	43
Nov-16	43	42	43	43	43	42
Jan-2018		43	41	43		

a. Assessment

40. According to the field survey and environment monitoring, the water, air and noise environment monitoring results are summarized as below:

    a) Water Monitoring Survey- Surface water quality monitored has met the requirements of national standard in *Environment Quality Standard of Surface Water (GB3838—2002, Grade III)* for each component, excluding the concentrations of COD_{Cr} exceeded the standard limit by 5% to 70%. This is consistent with the regular surface water environmental monitoring data by Fuzhou EPB in 2017, shown in the above **para. 32**. Therefore, the exceedance of COD_{Cr} might be due to high background COD_{Cr} level, possibly due to uncontrolled industrial wastewater, construction wastewater pollution and stormwater into the river (source: FMG http://xxgk.jxfz.gov.cn/bmgkxx/hbj/gzdt/zwdt/201712/t20171211_3415981.htm).
    b) Ambient air Monitoring Survey- The air quality monitored has met *Environment Ambient Air Quality Standard (GB3095—1996, Grade II)*, and the air quality of each sensitive receptor in construction phase also met the requirement of the national standard.
    c) Noise Monitoring Survey- Noises at each construction site has met the requirement of relevant standards. The noise at sensitive points related to the Projects has met the requirement of *Environmental Quality Standard for Noise (GB3096-2008), Class II*.

41. Based on all above, there is no any data exceeding national standard limit, and the negative impact caused by the Project is limited to an acceptable level.

3. Soil Erosion Caused by Construction: All Components

42. There is a Construction Environmental Management Plan (CEMP) for each contract that includes Soil Erosion Prevention Plan requirements. FIDC will recruit a soil erosion prevention monitoring agency to carry out soil erosion monitoring based on the SEPP. There were some soil erosion and management issues highlighted in Dec 2017 (for details see **paras. 30 to 33** in th **section D** of **Chapter V** below and **Appendix 2 Site Visit Notes**) during site visits by the independent external environmental consultant with FIDC. Although there was no actual significant adverse impact identified during this reporting period, since the estimated volume of borrow and spoil are both quite high with potential dust impact and soil erosion risks, it is recommended that soil balance be carefully considered, and the spoil be reused for road works or other projects as far as possible, as also proposed in the approved domestic environmental impact assessment (DEIA) and the EMP.

Table 5- 12 Actual Earthwork Material Balance (10^4 m^3)

Contract no.	Estimated Volume of Fill	Estimated Volume of Cut	Estimated Volume of Borrow	Estimated Volume of Spoil
Source: the below data was from the FIDC in Dec 2017.				
C1.2	Not available	Not available	9.6	0.5
C1.3	2.6	Not available	Not available	16.7
C1.4	2.7	4.3	Not available	33.8
C1.5	Not available	Not available	16.9	3.6
C1.6	2.6	4.2	Not available	15.8
Subtotal of access Roads	Not available	Not available	Not available	**70.4**

Table 5- 13 Earthwork Material Balance in the EIA (10^4 m^3)

Source: the below data was from the EIA, dated in May 2012, ADB project website.									
Component	**Excavation**	**Backfill**		**Earthwork transfer into**		**Earthwork transfer out**		**Disposal**	
		Gross	**Re-use**	**Qty**	**Source**	**Qty**	**To**	**Qty**	**To**
Access Roads	101.91	119.12	101.91	17.21					
Multi-modal transportation hub	5.3	5.3	5.3						
Fenggang River Improvement	105.73	88.52	88.52			17.21			
Demolition Existing Infrastructure	5.6							5.6	
Total	218.54	212.94	195.73	17.21		17.21		5.6	

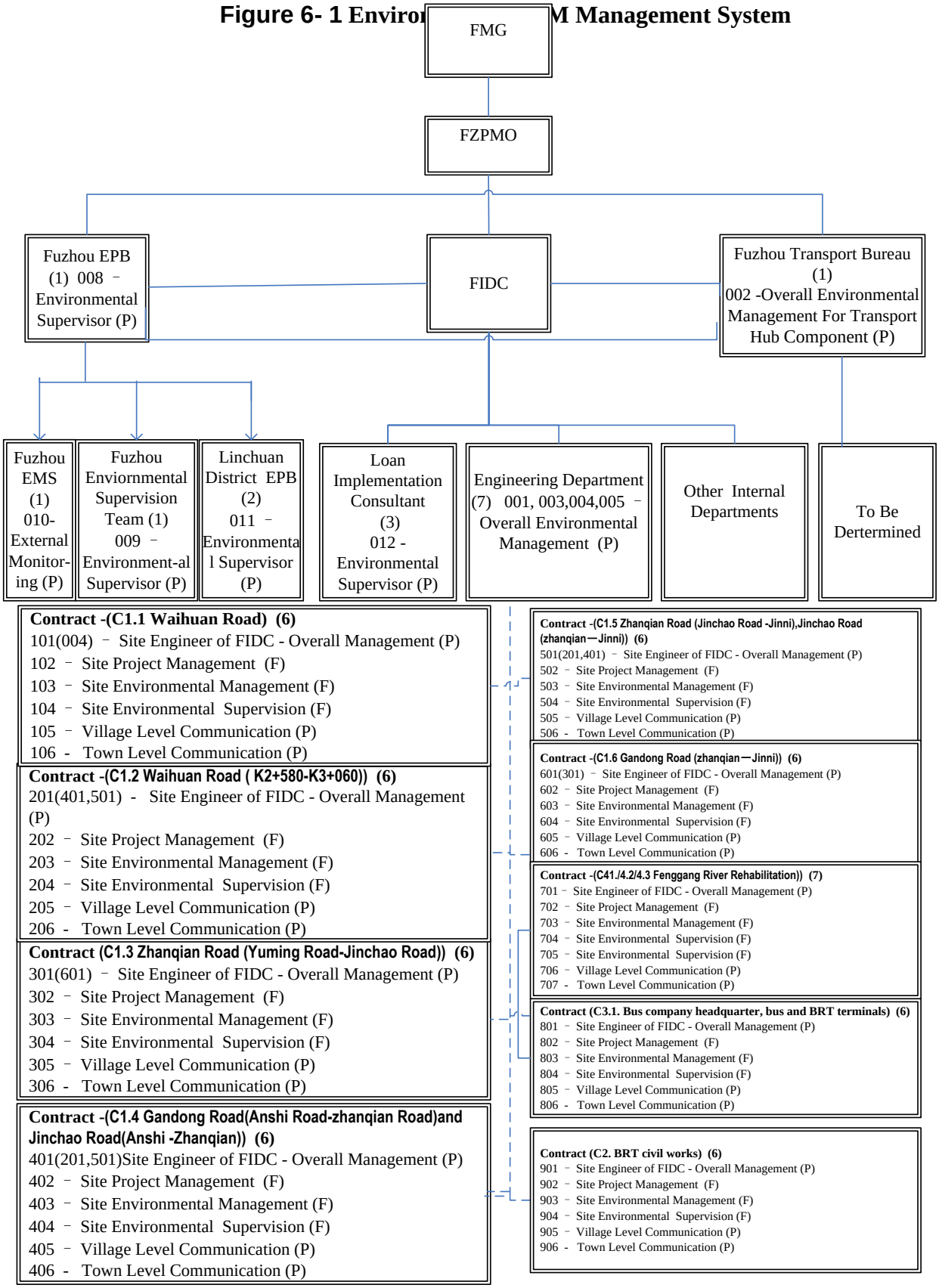
VI. PUBLIC CONSULTATION AND GRIEVANCE REDRESS MECHANISM STATUS

43. **Grievance Redress Mechanism (GRM).** The Project-specific GRM is under operation. A Project Complaint Center (PCC) for safeguards GRM was established in FIDC. A full-time staff (Mr. Fan Long, 182 9648 0180) was appointed to be responsible for the daily operation management of environmental and social GRM in FIDC. The officer is independent of the Supervising Engineer and contractor/operator. The officer has experience and/or training in dealing with complaints and mediation of disputes, and the facilities to maintain a complaints database and to communicate with the Supervising Engineer, the PMO, the FMG(Fuzhou EPB), and also with complainants.

44. The municipal government (Fuzhou EPB) nominated an officer (Miss. Zou Xiaohong, Fuzhou EPB, tel: 0794-12369, cell: 139 7948 3998) to act as a focal point for contact with the PCC. The PMO and the municipal government issued public notices to inform the public within the Project area of the GRM. The PCC and entry points' contact person names, phone numbers, and email address have been disseminated to the people through displays at the entrances of each construction site/contractor' site offices. To address this, FIDC and the Independent external environmental consultant inspected all the construction sites and confirmed compliance. Complaints received can also be dealt with via the municipal government (number 12345) and the EPBs' public complaints hotlines (number 12369).

45. Various public opinion surveys were undertaken in Dec 2017, for details please see the **Appendix 5**. No complaint has been received to date. **Figure 6- 1 shows the Project Environmental GRM**. The assigned entry points were agreed prior to commencement of construction work. In the course training in Dec 2017 and various onsite trainings through 2014~2016, the environmental GRM was covered.

Figure 6- 1 Enviro M Management System



Note: the number in the brackets above means how many staff is involved; other numbers means the reference no. of different staff; F=full time; P=part time.

Table 6- 1 Contact List of Environmental GRM Entrance Points

Code	Name/ Position/ Agency	Responsibility	Contact Details	Date of Environmental Assignment
001	Mr. Liu Haiquan /Deputy General Manager /FIDC	Overall management of environmental affairs in FIDC, including coordinating with the external parities, monitoring and improving the project performances for roads and bridges components	Cell: +86-0-13907946066 Tel: +86 794 8257866 Fax: +86-794 Email: FZ_PMO@163.com	2013
002	Mr. Huang Zhiqun / Section Chief /Fuzhou Transport Bureau	Overall management of environmental affairs in Fuzhou Transport Bureau, including coordinating with the external parities, monitoring and improving the project performances for heating component	Cell: +86-0-13970437292 Tel: +86 794 Fax: +86-794 Email: FZ_PMO@163.com	2014
003	Mr. Fan Long/ Engineer /FIDC	Daily coordination of environmental affairs in FIDC, including coordinating with the external parities, monitoring and improving the project performances	Cell: +86-0-18296480180 Tel: +86 794 8257866 Fax: +86-794 Email: FZ_PMO@163.com	2017
004 (101)	Mr. Qiu Biaojun/ Deputy General Manager /FIDC	Site management of environmental affairs in FIDC, including coordinating with the external parities, monitoring and improving the project performances for the all the roads and the bus terminal contracts	Cell: +86-0-13607948096 Tel: +86 794 8257866 Email: FZ_PMO@163.com	2013
005	Mr. Zuo Lianhui/ Director of Railway Investment Department /FIDC	Site management of environmental affairs in FIDC, including coordinating with the external parities, monitoring and improving the project performances for the all the Fenggang River Greenway contracts	Cell: +86-0-13607947588 Tel: +86 794 8257866 Email: FZ_PMO@163.com	2014
008	Miss. Zou Xiaohong, EIA Department /Fuzhou EPB	Environmental supervision, survey and issue corrective actions on environmental complaints	Tel:+86-794-12369	2013
009	Miss Li Hua /Environmental Supervisor/Fuzhou Environmental Supervision Team under Fuzhou EPB	Site environmental supervision, survey and propose corrective actions on environmental complaints	Cell: +86-0-13979483998 Tel:+86-794-12369 Fax: +86-794- Email:	2013
010	Mr. Xiao Yuxing /Fuzhou EMS under Fuzhou EPB	External site environmental quality monitoring	Cell: +86-13879495576 Tel: +86-794-8268705 Fax: +86-794- Email: 369390435@qq.com	2014
011	Linchuan district EPB	Environmental supervision for the contracts in Linchuan District, survey and issue corrective actions on environmental complaints for all the contracts	Cell: +86-0- Tel:+86-794-12369 Fax: +86-794- Email:	2013
012	Mr. Nie Mingtao/independent	Environmental technical support, assistance to coordinate with ADB	Cell: +86-18086056438 Tel/Fax: +86-	2014

Code	Name/ Position/ Agency	Responsibility	Contact Details	Date of Environmental Assignment
	external environmental consultant		Email: hjpmo@163.com	
101 (004)	Mr. Qiu Biaojun/ Deputy General Manager /FIDC	Site management of environmental affairs in FIDC, including coordinating with the external parities, monitoring and improving the project performances for the C1.1 Waihuan Road contract	Cell: +86-0- Tel: +86 794 8257866 Fax: +86-794 Email: FZ_PMO@163.com	2013 (for Waihuan Road contract)
102	Mr/Miss /Site Project manager of the constructor	On site management and decision making on general environmental affairs for the C1.1 Waihuan Road contract	Cell: +86- Tel: +86-794- Fax: +86-794- Email:	2013
103	Mr Li Xuan /Site environmental manager of the constructor/ Nanchang Road and Bridge Company	On site daily environmental management affairs for the C1.1 Waihuan Road contract	Cell: +8613361667066 Tel: +86-794- Fax: +86-794- Email:Lixuan19870207@126.com	2013
104	Mr. Wu Shenrong /Site environmental manager of the supervisor/ Changda Supervision Co., Ltd.	On site daily supervision on environmental management for the C1.1 Waihuan Road contract	Cell: +8613479426408 Tel: +86-794- Fax: +86-794- Email:	2013
105	/Villager Leader/	Village Level Communication	Cell: +86- Tel: +86-794- Fax: +86-794- Email:	2013
106	/Officer of Township Government/ XX Town of Linchuan District	Town Level Communication	Cell: +86- Tel: +86-794- Fax: +86-794- Email:	2013
201 (401, 501)	Mr. Li Yongliang/ Engineer of Engineering Department /FIDC	Site management of environmental affairs in FIDC, including coordinating with the external parities, monitoring and improving the project performances for the contract(C1.2 Waihuan Road (K2+580-K3+060))	Cell: +86-0-13879481979 Tel: +86 794 8257866 Fax: +86-794 Email: FZ_PMO@163.com	2014
202	Mr Liu Shujing/Site Project manager of the constructor/ Jiangxi Tongwei Road Construction Group Co., Ltd.	On site management and decision making on general environmental affairs for the contract(C1.2 Waihuan Road (K2+580-K3+060))	Cell: +86-15207945309 Tel: +86-794- Fax: +86-794- Email:	2014

Code	Name/ Position/ Agency	Responsibility	Contact Details	Date of Environmental Assignment
203	Mr Wang Wenbang /Site environmental manager of the constructor/ Jiangxi Tongwei Road Construction Group Co., Ltd.	On site daily environmental management affairs for the contract(C1.2 Waihuan Road (K2+580-K3+060))	Cell: +86-15720909021 Tel: +86-794- Fax: +86-794- Email:	2014
204	Mr. Zhang Yigeng /Site environmental manager of the supervisor/ Changda Supervision Co., Ltd.	On site daily supervision on environmental management for the contract(C1.2 Waihuan Road (K2+580-K3+060))	Cell: +86-15697883428 Tel: +86-794- Fax: +86-794- Email:	2014
205	/Villager Leader/	Village Level Communication	Cell: +86- Tel: +86-794- Fax: +86-794- Email:	2014
206	/Officer of Township Government/ XX Town of Linchuan District	Town Level Communication	Cell: +86- Tel: +86-794- Fax: +86-794- Email:	2014
301 (601)	Mr. Bai Shaofeng/ Engineer, Engineering Department /FIDC	Site management of environmental affairs in FIDC, including coordinating with the external parities, monitoring and improving the project performances for the contract (C1.3 Zhanqian Road (Yuming Road-Jinchao Road))	Cell: +86-0-13657042874 Tel: +86 794 8257866 Fax: +86-794 Email: FZ_PMO@163.com	2014
302	Mr Jie Yang/Site Project manager of the constructor/ Guangxi Huanan Construction Group Co., Ltd.	On site management and decision making on general environmental affairs for the contract (C1.3 Zhanqian Road (Yuming Road-Jinchao Road))	Cell: +86-13870482322 Tel: +86-794- Fax: +86-794- Email:	2014
303	Miss Liu Lijuan/Site environmental manager of the constructor/ Guangxi Huanan Construction Group Co., Ltd.	On site daily environmental management affairs for the contract (C1.3 Zhanqian Road (Yuming Road-Jinchao Road)	Cell: +86-13177661661 Tel: +86-794- Fax: +86-794- Email: 1390579627@qq.com	2014
304	Mr. Zhang Yigeng/Site environmental manager of the supervisor/ Changda Supervision Co., Ltd.	On site daily supervision on environmental management for the contract (C1.3 Zhanqian Road (Yuming Road-Jinchao Road))	Cell: +86-15697883428 Tel: +86-794- Fax: +86-794- Email: 1390579627@qq.com	2014

Code	Name/ Position/ Agency	Responsibility	Contact Details	Date of Environmental Assignment
305	/Villager Leader/	Village Level Communication	Cell: +86- Tel: +86-794- Fax: +86-794- Email:	2014
306	/Officer of Township Government/ XX Town of Linchuan District	Town Level Communication	Cell: +86- Tel: +86-794- Fax: +86-794- Email:	2014
401 (201, 501)	Mr. Li Yongliang/ Engineer of Engineering Department /FIDC	Site management of environmental affairs in FIDC, including coordinating with the external parities, monitoring and improving the project performances for the contract(C1.4 Gandong Road(Anshi Road-zhanqian Road)and Jinchao Road(Anshi -Zhanqian))	Cell: +86-0-13879481979 Tel: +86 794 8257866 Fax: +86-794 Email: FZ_PMO@163.com	2014
402	Mr Huang Jiangao /Site Project manager of the constructor/ Kunpeng Construction Group Co., Ltd.	On site management and decision making on general environmental affairs for the contract(C1.4 Gandong Road(Anshi Road-zhanqian Road)and Jinchao Road(Anshi -Zhanqian))	Cell: +86-18907940607 Tel: +86-794- Fax: +86-794- Email:	2014
403	Mr. Du Xiaoliang/Site environmental manager of the constructor/ Kunpeng Construction Group Co., Ltd.	On site daily environmental management affairs for the contract(C1.4 Gandong Road(Anshi Road-zhanqian Road)and Jinchao Road(Anshi -Zhanqian))	Cell: +86-13807949111 Tel: +86-794- Fax: +86-794- Email:	2014
404	Mr. Zhang Hegeng /Site environmental manager of the supervisor/ Jiangxi Hengshi Construction Supervision Company	On site daily supervision on environmental management for the contract(C1.4 Gandong Road(Anshi Road-zhanqian Road)and Jinchao Road(Anshi -Zhanqian))	Cell: +86-13677979595 Tel: +86-794- Fax: +86-794- Email:	2014
405	/Villager Leader/	Village Level Communication	Cell: +86- Tel: +86-794- Fax: +86-794- Email:	2014
406	/Officer of Township Government/ XX Town of Linchuan District	Town Level Communication	Cell: +86- Tel: +86-794- Fax: +86-794- Email:	2014

Code	Name/ Position/ Agency	Responsibility	Contact Details	Date of Environmental Assignment
501 (201, 401)	Mr. Li Yongliang/ Engineer of Engineering Department /FIDC	Site management of environmental affairs in FIDC, including coordinating with the external parities, monitoring and improving the project performances for the contract(C1.5 Zhanqian Road (Jinchao Road - Jinni),Jinchao Road (zhanqian—Jinni))	Cell: +86-0-13879481979 Tel: +86 794 8257866 Fax: +86-794 Email: FZ_PMO@163.com	2014
502	Mr. Huang Zhenhua /Site Project manager of the constructor/ YichunTongda Road & Bridge Construction Co., Ltd.	On site management and decision making on general environmental affairs for the contract(C1.5 Zhanqian Road (Jinchao Road -Jinni),Jinchao Road (zhanqian—Jinni))	Cell: +86-18296499776 Tel: +86-794- Fax: +86-794- Email:	2014
503	Miss Li Rong/Site environmental manager of the constructor/ YichunTongda Road & Bridge Construction Co., Ltd.	On site daily environmental management affairs for the contract(C1.5 Zhanqian Road (Jinchao Road - Jinni),Jinchao Road (zhanqian—Jinni))	Cell: +86-15870786933 Tel: +86-794- Fax: +86-794- Email:	2014
504	Mr. Zou Guisheng/Site environmental manager of the supervisor/ Jiangxi Hengshi Construction Supervision Company	On site daily supervision on environmental management for the contract(C1.5 Zhanqian Road (Jinchao Road - Jinni),Jinchao Road (zhanqian—Jinni))	Cell: +86-18970475156 Tel: +86-794- Fax: +86-794- Email:	2014
505	/Villager Leader/	Village Level Communication	Cell: +86- Tel: +86-794- Fax: +86-794- Email:	2014
506	/Officer of Township Government/ XX Town of Linchuan District	Town Level Communication	Cell: +86- Tel: +86-794- Fax: +86-794- Email:	2014
601 (301)	Mr. Bai Shaofeng/ Engineer, Engineering Department /FIDC	Site management of environmental affairs in FIDC, including coordinating with the external parities, monitoring and improving the project performances for the contract (C1.6 Gandong Road (zhanqian—Jinni))	Cell: +86-0-13657042874 Tel: +86 794 8257866 Fax: +86-794 Email: FZ_PMO@163.com	2015
602	Mr Wan Hui/Miss /Site Project manager of the constructor/ Zhushan Construction Group Co., Ltd.	On site management and decision making on general environmental affairs for the contract(C1.6 Gandong Road (zhanqian—Jinni))	Cell: +86-15179404939 Tel: +86-794- Fax: +86-794- Email:	2015

Code	Name/ Position/ Agency	Responsibility	Contact Details	Date of Environmental Assignment
603	Mr Huang Chungeng/Site environmental manager of the constructor/ Zhushan Construction Group Co., Ltd.	On site daily environmental management affairs for the contract(C1.6 Gandong Road (zhanqian－Jinni))	Cell: +86-18379464247 Tel: +86-794- Fax: +86-794- Email: 1390579627@qq.com	2015
604	Mr. Zhang Huiming/Site environmental manager of the supervisor/ Changda Supervision Co., Ltd.	On site daily supervision on environmental management for the contract(C1.6 Gandong Road (zhanqian－Jinni))	Cell: +86-13879493605 Tel: +86-794- Fax: +86-794- Email:	2015
605	/Villager Leader/	Village Level Communication	Cell: +86- Tel: +86-794- Fax: +86-794- Email:	2015
606	/Officer of Township Government/ XX Town of Linchuan District	Town Level Communication	Cell: +86- Tel: +86-794- Fax: +86-794- Email:	2015
701	Mr. Zhu Zhiwu/ Engineer, Engineering Department /FIDC	Site management of environmental affairs in FIDC, including coordinating with the external parities, monitoring and improving the project performances for the contract(C4.1Fenggang River Rehabilitation)	Cell: +86-0- 15179454937 Tel: +86 794 8257866 Fax: +86-794 Email: FZ_PMO@163.com	2015
702	Mr Yang Qizhu/Site Project manager of the constructor/ Jingxi Hongzhou Landscape Engineering Co., Ltd.	On site management and decision making on general environmental affairs for the contract(C4.1Fenggang River Rehabilitation)	Cell: +86-13647900929 Tel: +86-794- Fax: +86-794- Email:	2015
703	Mr XX /Site environmental manager of the constructor/ Jingxi Hongzhou Landscape Engineering Co., Ltd.	On site daily environmental management affairs for the contract(C4.1Fenggang River Rehabilitation)	Cell: +86 Tel: +86-794- Fax: +86-794- Email:	2015
704	Mr. Li Haihong, hydraulic engineer/Site environmental manager of the supervisor/ Guangdong Hehai Construction Engineering Company	On site daily supervision on environmental management for the contract(C4.1Fenggang River Rehabilitation)	Cell: +86-15070425431 Tel: +86-794- Fax: +86-794- Email:	2015

Code	Name/ Position/ Agency	Responsibility	Contact Details	Date of Environmental Assignment
705	Mr. Li Xingming, landscaping engineer /Site environmental manager of the supervisor/ Jiangxi Zhongxiang Construction Supervision Company	On site daily supervision on environmental management for the contract(C4.1Fenggang River Rehabilitation)	Cell: +86-13970429412 Tel: +86-794- Fax: +86-794- Email:	2015
706	/Villager Leader/	Village Level Communication	Cell: +86- Tel: +86-794- Fax: +86-794- Email:	2015
707	/Officer of Township Government/ XX Town of Linchuan District	Town Level Communication	Cell: +86- Tel: +86-794- Fax: +86-794- Email:	2015
801	Mr. Zhang Dehua/ Engineer, Engineering Department /FIDC	Site management of environmental affairs in FIDC, including coordinating with the external parities, monitoring and improving the project performances for the contract(C3.1. Bus company headquarter, bus and BRT terminals)	Cell: +86-0- Tel: +86 794 8257866 Fax: +86-794 Email: FZ_PMO@163.com	2016
802	Mr Yin/Site Project manager of the constructor/Gangxi Jiangong Company	On site management and decision making on general environmental affairs for the contract(C3.1. Bus company headquarter, bus and BRT terminals)	Cell: +86- Tel: +86-794- Fax: +86-794- Email:	2016
803	Mr Li /Site environmental manager of the constructor/ Gangxi Jiangong Company	On site daily environmental management affairs for the contract(C3.1. Bus company headquarter, bus and BRT terminals)	Cell: +86 Tel: +86-794- Fax: +86-794- Email:	2016
804	Mr. Zhang Huiming/Site environmental manager of the supervisor/ Changda Supervision Co., Ltd.	On site daily supervision on environmental management for the contract(C3.1. Bus company headquarter, bus and BRT terminals)	Cell: +86-13879493605 Tel: +86-794- Fax: +86-794- Email:	2016
805	/Villager Leader/	Village Level Communication	Cell: +86- Tel: +86-794- Fax: +86-794- Email:	2016

Code	Name/ Position/ Agency	Responsibility	Contact Details	Date of Environmental Assignment
806	/Officer of Township Government/ XX Town of Linchuan District	Town Level Communication	Cell: +86- Tel: +86-794- Fax: +86-794- Email:	2016
901	Mr. Zhang Peng/ Engineer, Engineering Department /FIDC	Site management of environmental affairs in FIDC, including coordinating with the external parities, monitoring and improving the project performances for the contract(C2. BRT civil works)	Cell: +86-0- 13755971018 Tel: +86 794 8257866 Fax: +86-794 Email: FZ_PMO@163.com	2017
902	/Site Project manager of the constructor/ Joint Venture of Fujian Lugang (Group) Co., Ltd. (Leader) and Beijing LuAn Traffic Technology Development Co., Ltd.	On site management and decision making on general environmental affairs for the contract(C2. BRT civil works)	Cell: +86- Tel: +86-794- Fax: +86-794- Email:	2017
903	/Site environmental manager of the constructor/ Joint Venture of Fujian Lugang (Group) Co., Ltd. (Leader) and Beijing LuAn Traffic Technology Development Co., Ltd.	On site daily environmental management affairs for the contract(C2. BRT civil works)	Cell: +86 Tel: +86-794- Fax: +86-794- Email:	2017
904	/Site environmental manager of the supervisor/	On site daily supervision on environmental management for the contract(C2. BRT civil works)	Cell: +86- Tel: +86-794- Fax: +86-794- Email:	2017
905	/Villager Leader/	Village Level Communication	Cell: +86- Tel: +86-794- Fax: +86-794- Email:	2017
906	/Officer of Township Government/ XX Town of Linchuan District	Town Level Communication	Cell: +86- Tel: +86-794- Fax: +86-794- Email:	2017

46. It is confirmed by FIDC, the contractor and the SE that there have been no environmental complaints raised so far.

47. FIDC and other relevant departments regularly communicate with affected persons on environmental and resettlement issues. And the contractors keep close contact with nearby villagers. It was informed by the IAs and constructors that some local farmers were employed by the constructors for temporary non-technical jobs during construction. In addition, FIDC and the independent external environmental consultant conducted a public consultation campaign for the station access roads and BRT works in December 2017. **The GRM was verified during the public consultation. Some concerns on construction noises, travel inconveniences during construction and operation, and road operation safety** were raised and responded. The public consultation activities in this reporting period and the plan for the next reporting period are in **Table 6-2** and **Appendix 5.** .

Table 6- 2 Public Consultation Activities in this Reporting Period and the Plan in the Next Reporting Period

Organizer	Approach	Times	Subject	Participants	Implementation status	Next Plan
A. Project Preparation, Pre-construction						
IAs, contractors, PCC	Information disclosure on construction site information boards	Throughout project implementation	Project information, planned interventions including timeframe, responsibilities, GRM structure and entry points, contact information	All residents within project's are of influence	Implemented during the Project preparation stage. Additional consultation was undertaken for BRT alignment change in February 2017 (as shown in **para. 6** of **Chapter 1** in the **6th EMR** dated Jan 2017).	As required in future.
B. Construction						
IAs, Fuzhou PMO, independent external environmental consultant	Questionnaire survey, or interview	At least once a year	Actual construction impacts, complaints, comments and suggestions from affected public and stakeholders; adjusting mitigation measures if necessary; comments to the GRM.	Residents within construction area, and affected stakeholder enterprises and agencies	The FIDC undertook some public consultation on resettlement (for details see the external resettlement reports) and the contractors irregularly communicated with nearby villagers, such as on local labor or material supply**.**	To be undertaken in the next reporting period. Ongoing public consultation with affected persons will be enhanced throughout implementation in future (to continuously undertake questionnaire survey on at least 10 representative affected people semi-annually)
	Public workshop	At least once a year	Adjustment of mitigation measures if necessary, construction impacts, comments and suggestions	Representatives of residents and other stakeholders	Once carry out in Dec 2017 by FIDC and the independent external environmental consultant (see above **para. 47**)	To be undertaken in the next reporting period.

VII. INSTITUTIONAL STRENGTHENING AND TRAINING

48. The implementation status of institutional strengthening and training program is shown as **Table 7-1**. During the ADB loan review mission in November 2017, site environmental management (*garage and construction waste randomly disposed without proper collection; several construction sites without appropriate fences; BRT alignment road traffic control inadequate; electricity lines exposed without proper protections; construction workers not equipped with personal protection equipment; and excavated trench no presence of necessary supporting measures*) issues were raised. To address those comments, the contractors and SEs organized relevant training to the onsite construction workers in order to raise their environmental awareness and facilitate sound construction practice based on the CEMPs.

49. Furthermore, a training workshop was conducted on 14 Dec 2017 at FIDC's office building in Fuzhou City. The training was designed to give the FIDC management and daily operational staff as well as the contractors/CSCs an insight into the value and necessity of an effective CEMP, as well as equipping participants with the basic skills required to implement the SPS and WBG EHS guidelines efficiently. The participants included 14 personnel from FIDC and its subsidiary organizations (including 1 from its headquarters and 2 from its component management company), and the remaining 11 from contractors/CSCs for the. Post training evaluation indicated that all the trainees were positive to the two training course.

Figure 7- 1 Training Workshop in Dec 2017

Table 7- 1 Implementation status of Institutional Strengthening and Training Program

Activities	Targeted Agencies/Attendees	Contents	Implementation status in this reporting period	Notes
Institutional Strengthening (Newly added in comparison with the EMP)				
Institutional Strengthening	Fuzhou PMO, IAs(FIDC, Fuzhou Transport Bureau), Fuzhou EPB	Defining institutional arrangements for environmental management, monitoring, and supervision; defining positions and responsibilities; appointing and recruiting personnel; Recruiting and contracting EMC for environmental monitoring; Recruiting and contracting a LIEC for the overall Project, for environmental management consultancy Environmental Management System Strengthening and Improvement.	Fulfilled for FIDC and Fuzhou Bus Company (under Fuzhou Transport Bureau), for contract C2. Civil works for BRT. See **Chapter II**. Fulfilled. The consulting service of independent external environmental consultant contracted in March 2014 was ongoing. Fulfilled. Environmental specialist (Loan implementation environmental consultant) included in the loan implementation international consulting firm (EED) was ongoing. Fulfilled. Established in FIDC and Fuzhou Bus Company (under Fuzhou Transport Bureau).	For new contract in 2017 (contract C2-BRT civil works)
Environmental Management Clauses and Protocols	Fuzhou PMO, IAs(FIDC, Fuzhou Transport Bureau), Contractors; SEs	Developing environmental management clauses and incorporating them into construction and operational contracts Developing/refining environmental monitoring protocols Developing environmental emergency response procedures	Environmental protection clauses were developed and incorporated into construction contracts (C2. Civil works for BRT) Environmental monitoring program was complied with. See **Chapter III**. The environmental emergency response procedures for construction activities are in place.	
Training				
ADB's and PRC's environmental laws, regulations and policies	Fuzhou PMO, IAs(FIDC, Fuzhou Transport Bureau), contractors	ADB's SPS and other environmental regulations; Project applicable PRC's environmental laws, policies, standards and regulations; International environmental management practice in civil constructions;	A training was conducted by the independent external environmental consultant in Dec 2017	

Activities	Targeted Agencies/Attendees	Contents	Implementation status in this reporting period	Notes
Grievance Redress Mechanism	Fuzhou PMO, IAs(FIDC, Fuzhou Transport Bureau), PCC, IAs, GRM entry points, Fuzhou EPB	GRM structure, responsibilities, timeframe Types of grievances, eligibility assessment Gender responsive GRM Reporting procedures.	A training was conducted by the independent external environmental consultant in Dec 2017	
EMP implementation	Fuzhou PMO, IAs(FIDC, Fuzhou Transport Bureau), contractors, SEs	Responsibility and duties during construction, management and environmental protection; Task of environmental protection during construction; Key environmental protection contents during construction; Various environmental forms and reporting EMP improvement and corrective actions; Based on the actual case, adjustment and improvement of EMP.	A training was conducted by the independent external environmental consultant in Dec 2017	
Emergency response	FMG, FWRB, Fuzhou PMO, IAs(FIDC, Fuzhou Transport Bureau), contractors, SEs	Environmental accident, crisis and mitigation measures; Emergency response team, procedure and actions. Flood and mudslide emergency planning Flood early warning system	Not yet.	To be implemented in next reporting period (Jan to Jun 2018)
Environmental technologies	Fuzhou PMO, IAs(FIDC, Fuzhou Transport Bureau), contractors	Relevant technologies and good construction practice for environmental protection.	A training was conducted by the independent external environmental consultant in Dec 2017	On WBG IFC general EHS guidelines
Theories and practices on soil erosion prevention	Fuzhou PMO, IAs(FIDC, Fuzhou Transport Bureau), FWRB, and contractors	Risks for soil erosion and other geologic hazards; Mitigation measures for soil erosion prevention.	A training was conducted by the independent external environmental consultant in Dec 2017	To be implemented in next reporting period (Jan to Jun 2018)
Environmental monitoring, inspection, and reporting	Fuzhou PMO, IAs(FIDC, Fuzhou Transport Bureau), Fuzhou EPB, Fuzhou EMS and contractors	Monitoring and inspection methods, data collection and processing, interpretation of data, reporting system.	A training was conducted by the independent external environmental consultant in Dec 2017	

VIII. KEY ENVIRONMENTAL ISSUES AND NEXT-STEP ACTION PLAN

A. Key Issues Identified and Actions Recommended

50. Site audits and monitoring to date indicates that the EMP is being implemented and there are no significant environmental impacts. The site management has improved during this reporting period but there is a room for improvement including spoil management and construction waste mitigation and management, which needs more attention to improve prior to the next rainy season (April to August each year). In addition, site access control and site domestic wastewater and waste management need to be strengthened and closely monitored/documented. For details see the **paras. 30 to 42, section D** of **Chapter V**.

Table 8- 1 Suggestions and Recommendations

No.	Suggestions and recommendations	Time Framework	Implementation Agencies	Supervision Agencies
a)	More[5] efforts are required on **water and soil conservation** to prevent soil erosion efforts in the next stage. It is recommended that water and soil conservation at borrow areas and construction waste disposal sites be better considered and strengthened to reduce soil erosion during rainy seasons.	Every civil works contract implementation period (from starting to ending).	Contractors	FZPMO(FDIC); SEs; Fuzhou Water Resource Management Bureau; Loan implementation environmental consultant (EED)
b)	The contractors should strengthen site management, especially spoil management and site access control and site domestic wastewater and waste management, and minimize the negative impact on the environment.	Every civil works contract implementation period(from starting to ending)	Contractors	FZPMO(FDIC); SEs; Fuzhou EPB; Loan implementation environmental consultant (EED)
c)	It is necessary to strengthen[6] the environmental monitoring, documentation and supervision, along with good practices of environment, healthy, and safety (EHS) for training.	Mobilization stage of every civil works contract package. Every civil works contract implementation period(from starting to ending)	Contractors; SEs	FZPMO(FDIC); Fuzhou EPB; Loan implementation environmental consultant (EED)
d)	More tailor-made training should be provided for all relevant environmental management agencies to improve the environmental management, monitoring and reporting during construction period (referring to **para. 48** in **Chapter VII**).	Mobilization stage of every civil works contract package. Every civil works contract implementation period(from starting to ending)	Contractors; SEs; FDIC; Loan implementation environmental consultant (EED)	Fuzhou EPB

[5] Some water and soil conservation measures were undertaken, as shown in **page 76** of **Appendix 3**. For spoiled soil, see **para. 42** in **pages 40~41**.

[6] Current environmental supervision, monitoring and documentation and are not adequate and need to be improved. For details, please see the site visit notes in **Appendix 2**.

B. Action Plan of Environmental Monitoring (January to June 2018)

51. It is expected that most of the project civil contracts including the BRT component will be under construction in the first half of 2018. The environmental monitoring will be focused on the following three aspects: a) Emphasize soil erosion prevention of construction site, including road components in the Project; b)Enhance the implementation of environmental management plan and mitigation measures to minimize the negative environmental impact of the projects under construction; and c)Strengthen monitoring and assessment of water, air and acoustic quality.

IX. CONCLUSION

A. Overall Progress of Implementation of Environmental Management Measures

52. Based on the environmental monitoring of Jiangxi Fuzhou Urban Integrated Infrastructure Improvement Project, it is found that the contractors have undertaken relevant environmental mitigation measures specified in the project domestic EIA report and CEIA, and have addressed issues raised by the monitor to improve site environmental management and compliance with the EMP. Recommendations have been made to improve erosion control and spoil management during this monitoring period (refer to **para. 33, page 28**).

X. APPENDICES

1. Applicable Environmental Standards

2. Notes on Site Visit (December 2017)

3. Implementation Status of the Impacts and Mitigation Measures during Construction of All Components

4 Certificate Of Local Environmental Monitoring Agency (For Field Sampling And Lab Testing), Jiangxi Solid Environmental Services Co., Ltd.

5: Public and Agency Comments and Responses

APPENDIX 1
APPLICABLE ENVIRONMENTAL STANDARDS

(1) Water Environment

Table A1- 1 Environmental Functional Zoning for Surface Water along the Proposed Project

No.	Water Body	Scope	Functional Category	Environmental Quality Standard for Surface Water (GB3838-2002)
1	Fenggang River		Class III	Class III

Table A1- 2 Quality Standard Limit for Surface Water Environment (Class III)

Unit: mg/L (exclusive of PH value，Coli-form〕

No.	Item	Standard Limit	No.	Item	Standard Limit
1	pH	6～9	14	Lead	0. 05
2	Dissolved Oxygen (DO)	5	15	Cadmium	0.005
3	Index of Permanganate	6	16	Copper	1.0
4	Chemical Oxygen Demand	20	17	Zinc	1.0
5	Biochemical Oxygen Demand	4	18	Oil	0.05
6	Total Nitrogen	1.0	19	Fluoride	1.0
7	SS	30	20	Sulphate	250
8	Sulphide	0.2	21	Chloride	250
9	Volatile Phenol	0.005	22	Total Phosphorus	0.2
10	Cyanide	0.2	23	Anionic Surfactant	0.2
11	Arsenic	0.05	24	Coli-form	10000/L
12	Mercury	0.0001	25	Ammonia Nitrogen	1.0
1 3	Hexavalent chrome	0.05			

(2) Ambient Air

Table A1- 3 Ambient Air Quality Standard (Class II)

Unit: mg/m^3

Standard	No.	Item	Daily Average
GB3095-2012	1	TSP	0.30

(3) Acoustic Environment

Table A1- 4 Acoustic Environment Quality Standard

(GB3096-2008) Unit: Leq[dB(A)]

Category	Range of Usage	Noise Limit	
		Daytime	Nighttime
Class I	Regions dominated by residence, cultural and educational organizations	55	45
Class II	Residential, commercial and industrial confounding area	60	50
Class 4a	On both sides of the urban trunk road	70	55

(4) Water Erosion Intensity Classification

Level		Erosion modulus (t/km^2 per year)
I	very slight erosion	< 500
II	slight erosion	500–2,500
III	moderate erosion	2,500–5,000
IV	intense erosion	5,000–8,000
V	very intense erosion	8,000–15,000

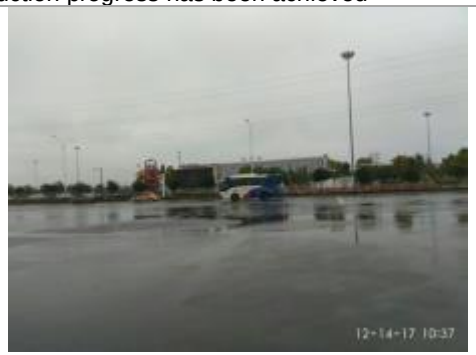
APPENDIX 2
Notes on Site Visit (December 2017)

(Note: the contracts' progress data sourced from the FIDC)

C1.1_ Civil Works of Waihuan Road (Front of Zhanqian square)

Package Contents:	Civil Works of Waihuan Road (Front of Zhanqian square) with the total length of 2580m	Remarks: • Open to traffic now.
Contract Amount	The total investment of construction is CNY 160 million (contract price is CNY 159.1million). It is financed by Fuzhou Municipal Government and regarded as associated facilities to the ADB Loan Project.	
Contractor:	Nanchang Road & Bridge Engineering Co., LTD	
Contract Awarded:	April 24, 2013	
Completion Time	Completed in July 2015	
Progress:	A total of 100% construction progress has been achieved	
 		
Completed tunnel of Waihuan Road (photos in Dec 2015 and Dec 2017)		

C1.2_Civil Works of Waihuan Road (Zhanqian square-Chonggang Road)

Package Contents:	Civil works of the Waihuan Road (Zhanqian square-Chonggang Road) with the total length of 481m and right-of-way width is 70m	Remarks: Open to traffic now.
Contract Amount ($ million)	3.30	
Contractor:	Jiangxi Tongwei Road Construction Group Co., Ltd	
Contract Awarded:	22 Jul 2014	
Completion Time	Oct 2017	
Progress:	A total of 100% construction progress has been achieved	
 		

C1.3_Zhanqian Road (Yuming Road-Jinchao Road)

Package Contents:	Civil works of the Zhanqian Road (Yuming Road-Jinchao Road)with the total length of 1089mand right-of-way width is 70/55m	Remarks: The independent external environmental consultant visited the site in December 2017. The main findings are shown below: • Persons met: • IA's site representative: Mr. Li and Mr. Yu SE: Mr. Zhang, site supervisor, Jiangxi Hengshi Construction Supervision Company • **No major issues identified. Other minor issues include:** ➢ Plenty of spoil was observed being stockpiled along the road shoulders. The contractor explained those spoils were dumped by nearby villagers. Site spoil management should be strengthened. ➢ The construction site looked not fully fenced. Access control should be be enhanced. ➢ Environmental monitoring: included in the SE's monthly contract progress reports. However, the contractor's environmental monitoring reports are too generic. Site supervising, environmental monitoring reporting and documentation should be further improved on the basis of the sample environmental monitoring checklist provided by the independent external environmental consultant.
Contract Amount ($ million)	6.49	
Contractor:	Guangxi Huanan Construction Group Co., Ltd	
Contract Awarded:	22 Jul 2014	
Planned Completion Time	Dec 2018	
Progress:	80% of the progress has been achieved.	

C1.4 Gandong Road (Anshi Road-Zhanqian Road)+Jinchao Road (Anshi Road-Zhanqian Road)

Package Contents:	(i) Civil works of the Gandong Road (Anshi Road-Zhanqian Road)with the total length of 1151mand right-of-way width is 55m; and (ii) Jinchao Road (Anshi Road-Zhanqian Road) with the total length of 837m and right-of-way width is 50m	Remarks: The independent external environmental consultant visited the site in December 2017. The main findings are shown below: • C1.4Jinchao Road (Anshi Road – Zhanqian Road), the length is 837m. • Persons met:IA's site representative: Mr. Li and Mr. Yu • **No major issues identified. Other minor issues include:** • Plenty of spoil was observed being stockpiled along the road shoulders. Some construction waste was not covered. The contractor explained those spoils were dumped by nearby villagers. The construction site looked not fully fenced. Access control should be be enhanced. Site spoil management should be strengthened. • Environmental monitoring: included in the SE's monthly contract progress reports. However, the contractor's environmental monitoring reports are too generic. Site supervising, environmental monitoring reporting and documentation should be further improved on the basis of the sample environmental monitoring checklist provided by the independent external environmental consultant.
Contract Amount ($ million)	8.47	
Contractor:	Kunpeng Construction Group Co., Ltd	
Contract Awarded:	22 Jul 2014	
Planned Completion Time	Dec 2018	
Progress:	80% of the progress has been achieved.	

C1.5 Zhanqian Road (Jinchao Road-Jinni Road) + Jinchao Road (Zhanqian Road-Jinni Road)

Package Contents:	(i) Civil works of the Zhanqian Road (Jinchao Road-Jinni Road)with the total length of 1080m and right-of-way width is 55m; and (ii) Jinchao Road(Zhanqian Road-Jinni Road)with the total length of 1224m and right-of-way width is 50m	Remarks: Open to traffic now.
Contract Amount ($ million)	9.31	
Contractor:	YichunTongda Road & Bridge Construction Co., Ltd	
Contract Awarded:	22 Jul 2014	
Completion Time	Oct 2017	
Progress:	A total of 100% construction progress has been achieved	

C1.6 Gandong Road (Zhanqian Road-Jinni Road) Civil Works

Package Contents:	Civil works of the Gandong Road (Zhanqian Road-Jinni Road)with the total length of 1779mand right-of-way width is 55m	Remarks: No site visit during this reporting period. No major issues reported.
Contract Amount ($ million)	8.34	
Contractor:	Zhushan Construction Group Co., Ltd	
Contract Awarded:	Aug 2014	
Planned Completion Time	Dec 2018	
Progress:	80% of the progress has been achieved.	
		
Signboards on environmental supervision and GRM		

C2_Civil Works of BRT corridor

Package Contents:	BRT corridor, road improvement works (drainage, greenery, street lights, architecture, station power supply, lighting) and traffic engineering (5.5 km)	Remarks: The independent external environmental consultant visited the site in December 2017. The main findings are shown below: Persons met: IA's site representatives (Mr. Zhang Peng) • **No major issues identified. Other minor issues include:**
Contract Amount (CNY million)	223.06	
Contractor:	Joint Venture of Fujian Lugang (Group) Co., Ltd. (Leader) and Beijing LuAn Traffic Technology Development Co., Ltd.	
Contract Awarded:	June 2017	
Planned Completion Time	Dec 2018	
Progress:	Under construction	



Yuming ave. section


Huancheng south road-Majiashan stop


Huancheng south road detour


End of huancheng south road


Construciton noticification


Gandong ave. section, pavement done


Bubugao stop

C3.1_Civil Works of Bus Company Headquarter and Bus Terminals

Package Contents:	Civil works of Bus Company Headquarter and Bus Terminals
Contract Amount (CNY million)	48.11
Contractor:	Guangxi Jiangong Company
Contract Awarded:	August 2016
Planned Completion Time	March 2018
Progress:	60% of the progress has been achieved.

Remarks: The independent external environmental consultant visited the site in December 2017. The main findings are shown below:

Persons met: IA's site representatives (Mr. Zhang Peng) and the contractor- Guangxi Jiangong's site representatives (Mr. Yin, Mr. Li)

- **No major issues identified. Other minor issues include:**

Main structure completed

Contractor's office

Onsite safety instruction signboard

Green net (Polyolefin) for preventing dust

C4.1 to 4.3 Fenggang River Improvement Civil Works

Package Contents:	Hydraulic Work and Landscaping of Fenggang River with the total length of 8.22km.	Remarks: The independent external environmental consultant visited the site in December 2017. The main findings are shown below: • Persons met: IA's site representative: Mr. Yu Xin • **No major issues identified. Other minor issues include:** ➢ Soil erosion prevention is recommended to pay sufficient attention before rain season. ➢ Environmental monitoring: included in the SE's monthly contract progress reports. However, the contractor's environmental monitoring reports are too generic. Site supervision, environmental monitoring reporting and documentation should be further improved on the basis of the sample environmental monitoring checklist provided by the independent external environmental consultant.
Contract Amount ($ million)	24.64	
Contractor:	Hongzhou Gardening Construction Company, Jiangxi	
Contract Awarded:	16 Jul 2015	
Planned Completion Time	Q2 2018	
Progress:	90% of the progress has been achieved.	

The square along Fenggang river

Riverine platform

Landscaping

Sports square

Tree plantation

Water purification facility (aerobic)

APPENDIX 3 IMPLEMENTATION STATUS ON THE IMPACTS AND MITIGATION MEASURES DURING CONSTRUCTION OF ALL COMPONENTS (As of 31 December 2017)

Aspect	Potential impact and source	Significance[7]	Mitigation	Residual impact[b] comments	Component	Implementation Status And Compliance with EMP
Air quality	Emissions from construction vehicles and machinery	- Medium	All vehicles, equipment and machinery used for construction will be regularly maintained in accordance with manufacturers specifications to ensure that the pollution emission levels conform to the standards prescribed; All equipment and machinery to be operated in accordance with manufacturer's specifications; All construction camps, depots, and storage areas be located at least 200 m from sensitive areas; Regular monitoring to define areas of significant air pollution.	Negligible	All components; BRT most sensitive	Complied With. BRT alignment is changed. The details please see the para. 7 in **Chapter I**.

[7] **(Low, Medium, High) + = positive, 0 =neutral, - = negative**

Aspect	Potential impact and source	Significance[7]	Mitigation	Residual impact[b] comments	Component	Implementation Status And Compliance with EMP
	Construction related dust from the movement of vehicles to/from site	- Medium	Dust suppression through regular watering and cleaning will be used on unsealed road surfaces, asphalt mixing sites and temporary service areas. Setting of speed limits on dirt roads. Reducing unnecessary movement of construction vehicles on unpaved roads and sites;	Negligible	All components	Complied with. No asphalt mixing plant is required. All asphalt is purchased from designated commercial vendors. There is a concrete mixing plant on site shared by all the contractors. TSP concentrations during this monitoring campaign indicate compliance. The details please see **para. 38** in **Chapter V**.
	Vehicles hauling materials will generate dust nuisance.	- Medium	Vehicles delivering material will be covered.	Negligible	All components	Complied with
	Emission of odor from excavated spoil	-Medium	Monitor odor during excavation and dredging activities. Ensure any odorous material is quickly covered with non-odorous material, to minimize emissions. If it is not possible to cover material the same working day, inform residents that may be potentially affected of temporary nature and the grievance redress mechanism. Avoid works with odorous material during wind conditions that are likely to result in widespread odor dispersion.	Negligible	All components, most risk from Fenggang River works	Complied with.
Noise	High noise levels from construction vehicles and machinery	-Medium	Impose speed limits on all construction vehicles; No night time working, to reduce the potential impacts on sensitive uses Sound proofing of all vehicles and equipment; Stationary units to be located in sound absorbing areas; All construction camps, depots and storage areas to be located at least 200 m from sensitive areas; Regular	Negligible	All components: BRT most sensitive	Complied with. BRT alignment is changed. The details please see the para. 7 in **Chapter I**.

Aspect	Potential impact and source	Significance[7]	Mitigation	Residual impact[b] comments	Component	Implementation Status And Compliance with EMP
			monitoring to define areas of noise sensitivity			
	Protection of workers Health and Safety	- Low	Noise standards for industrial enterprises will be strictly enforced to protect construction workers from noise impacts, in accordance with international health, safety and environment procedures.	Low	All components	Complied with
Surface water	Pollution of Fenggang river and canals by fuels and oils	- Medium	Fuel storage and refueling sites located away from Fenggang river. Extraction of water for construction only to occur in accordance with local and national regulations	Negligible	Fenggang River	Complied with.
	Construction materials blocking drainage and producing contaminated run-off.	- Medium	All water channels and drainage channels must be kept clear of debris and immediately rebuilt if needed. Drainage from all sites to be channeled to discharge via percolation area and for sensitive sites through a settling pond with an appropriate retention period. Ensure no short term flooding occurs.	Negligible	All components	Complied with
Ground water	Pollution of groundwater by fuels and oils spillage.	- Low	Construction vehicles and equipment will be maintained and refueled at protected refueling stations.	Negligible	All components	Complied with.

Aspect	Potential impact and source	Significance[7]	Mitigation	Residual impact[b] comments	Component	Implementation Status And Compliance with EMP
	Exposure and contamination of groundwater during construction	-Low	All construction activities to ensure no spillage of materials. Regular monitoring to take place to ensure no contamination takes place.	Negligible	All components but specifically Urban Transport Hub.	Complied with.
Soil	Soil erosion due to inadequate and immediate application of stabilization techniques.	- Medium	Re-vegetate barren cuts and work areas as soon after the work has been completed as is practical. Apply topsoil on all vacant sites as soon as practical	Negligible	All components except BRT	Basically complied with. The constructors submitted CEMPs including soil erosion prevention measures. During the site visits, soil disposal issues were highlighted. The details please see the **para. 42** in **Chapter V** and the **Appendix 2**.
	Damage to soil through compaction at temporary work areas such as storage areas and transport routes.	- Medium	Strip off topsoil initially and then de-compact and reinstate topsoil for effective reinstatement in accordance with Government requirements.	Negligible	All components except BRT	
	Contamination of soil from fuel and lubricants.	- Medium	All fuels and oils stored in accordance with international practice; bunded and impervious flooring.	Negligible	All components except BRT	
Flora	Loss or damage to vegetation	- Medium	Replanting of trees and restoration of impacted areas by de-compaction and reinstatement of topsoil.	Negligible	All components	Complied with. The ADB loan review mission in May 2016 reviewed the ecological design and confirmed compliance. The details please see the **para. 7** in **Chapter I** and **Appendix 4** of the **6th EMR** dated January 2017.

Aspect	Potential impact and source	Significance[7]	Mitigation	Residual impact[b] comments	Component	Implementation Status And Compliance with EMP
	Failure to properly manage/store topsoil, leading to degraded and substandard site reclamation and re-vegetation.	- Medium	Cleary defined topsoil storage and handling in contract specifications, and follow up with regular inspection, monitoring and reporting.	Negligible	All components	Complied with.
Fauna	Loss, damage or disruption to fauna due to unnecessary and un-approved expansion in construction working areas, soil compaction.	- Low	Contractor will be directed not to disrupt or damage the fauna and their habitats.	Negligible	All components except BRT	Complied with.
Social: Community economic activity	Community loses access to homes and businesses, affecting income generating activities.	- Medium	Consult with local officials to establish an adequate detour plan and sufficient access to areas cut off or constrained by the construction work	Medium and will depend of effectiveness of the plans implemented.	All components	To be reflected in the resettlement monitoring report.
Social: Construction camps	Community tension and disruption.	- Medium	Community members and contractors to meet and discuss issues. Evaluate locations for camps. Develop camp management rules. Develop and implement a Project Induction training course that is mandatory for all workers; this will contain health and safety, environmental and social context components.	Minor	All components	Complied with.
Archaeology and cultural heritage	Potential loss and damage to cultural resources not defined in EIA	- Low	Develop and implement a Chance Finds Protocol, including maintaining a watching brief during works, with clear procedures for protection and documentation. The EIA indicated that there were no cultural or archaeological remains, but some evidence may be found during construction activities and should be recorded.	Medium	All components except BRT	Not applicable so far
Land: Agriculture	Damage to agricultural crops and lands, including drainage and irrigation infrastructure.	- Medium	Liaise effectively with affected persons before start of construction, maintain dialogue, develop a grievance procedure, strictly control machinery and vehicle access and reinstate all affected areas.	Minor	All components except BRT	Complied with.

Aspect	Potential impact and source	Significance[7]	Mitigation	Residual impact[b] comments	Component	Implementation Status And Compliance with EMP
Land: Livestock	Livestock resources damaged by machinery and vehicles.	- Medium	Liaise effectively with affected persons before start of construction, maintain dialogue, develop a grievance procedure, strictly control machinery and vehicle access, consider fencing for protection, and discuss livestock crossing points.	Minor	All components except BRT	Complied with.
Land: Property loss	Damaged properties and those required to be demolished to facilitate the construction works.	- High	Develop and implement a compensation scheme that is compliant with ADB procedures (Resettlement Action Plan). Provide for compensation and emergency management for any accidental damage due to close proximity of works to properties. See Resettlement Plan.	Potential medium or low adverse effect, depending on the success of the compensation arrangements.	All components	To be reflected in the resettlement monitoring report.
Traffic	Traffic disruption and diversion	- High	Develop and implement effective traffic management plans and make them publically available. Give advance notice of any diversions and closures. Install warning signs.	Negligible	All components	Complied with.
Traffic: Community safety	Residents injured or disturbed by construction activities in proximity to residences and businesses.	- High	Conduct safety awareness campaigns, focusing on schools and children. Develop an effective method statement for construction, in consultation with residents.	Residual impacts will depend on the effectiveness of the campaigns.	All components	Complied with.
Traffic management	Both through traffic and local traffic disrupted due to road closures and restrictions during lifting and overhead works	- Medium	Develop an effective traffic management plan for through traffic that also minimizes disruption to residents.	Potential medium or low adverse effect, depending on the success of the traffic arrangements.	All components	Complied with.
Waste	Contamination of soil or water resources.	- Medium	Contaminated or hazardous waste such as bitumen waste to be disposed of in selected areas & approved by supervision consultants. All waste disposal to comply with a Waste Management Plan to be developed at the start of construction.	Minor.	All components	Complied with.

Aspect	Potential impact and source	Significance[7]	Mitigation	Residual impact[b] comments	Component	Implementation Status And Compliance with EMP
	Construction waste not being disposed of appropriately	-Medium	Where reuse and recycling not possible all construction waste to be taken off site in accordance with local requirements and national regulations		All components	Complied with.
Hazardous material use and storage	Soil and water pollution.	- Medium	Construction vehicles and equipment will be maintained and refueled at protected refueling stations. All storage and handling sites located away from Fenggang river and sensitive uses.	Negligible		Complied with.
Worker HSE	Workers injured during construction	- Medium	Implement international HSE standards in all contracts.	Minor	All components	Complied with.
Workers camps	Spread of disease (including STIs)	- Low	Conduct awareness campaigns for camp workers, and if relevant, nearby communities.	Minor	All components	Complied with.
	Water and soil pollution from sewage.	- Medium	The sewage system for such camps will be properly designed and built so that no water pollution takes place. Such facilities will be decommissioned at end of the construction period. All waste to be disposed off site at approved and managed landfills.	Minor		Complied with.
Encroachment by contractor	Land resources damaged by contractor using additional land illegally.	- Medium	Identify work areas with contractor(s) and describe system of approvals for extensions and fines for violations.	Negligible	All components	Complied with.
Service and utilities disruption.	Services disrupted by large scale construction works.	- Low	Develop an effective method statement for construction, in consultation with the residents, local administration and owner companies.	Potential low adverse effect	All components	Complied with.

[a]Significance is assessed assuming no implementation of mitigation measures.

[b]Residual impact is the remaining impact assuming that mitigation measures have been successfully implemented

APPENDIX 4 Certificate of local environmental monitoring agency (for field sampling and lab testing), Jiangxi Solid Environmental Services Co., Ltd.; and its automatic surface water quality sampling process (self-flying monitor)

检验检测机构

资质认定证书

证书编号：171412340705

名称：江西省立德环保服务有限公司

地址：江西省南昌市南昌县小蓝经济技术开发区金沙大道802号4栋（330052）

经审查，你机构已具备国家有关法律、行政法规规定的基本条件和能力，现予批准，可以向社会出具具有证明作用的数据和结果，特发此证。资质认定包括检验检测机构计量认证。

检验检测能力及授权签字人见证书附表。

许可使用标志

171412340705

发证日期：2017年08月24日

有效期至：2023年08月23日

发证机关：江西省质量技术监督局

本证书由国家认证认可监督管理委员会监制，在中华人民共和国境内有效。

APPENDIX 5: Public and Agency Comments and Responses

The independent environmental consultant received comments on the project environmental impacts from the agencies, organizations and individuals listed below. The comments are reproduced in their entirety on the following pages (following the list of commentors) with responses provided opposite each comment. The public concerns received in the December 2017 public opinion surveys were transcribed for inclusion into this EMR with the response provided on the opposite page.

Written letters of comment were received from the following:

No.	Person	Organizations	Date Received	Corresponding Comment No.
1	ADB	Forwarded by Mr. Fan from the IA(FIDC)	9 Nov 2017	**1-5**

Individual comments were received at the public consultation meetings from the following:

A1-A4	December 2017 public opinion surveys	15 December 2017	**IN1-IN12**

No	Name	Gender	Minorities	Age	Designation	Deptt: / Organization	Education	Corresponding Comment No.
December 2017 public opinion surveys (mainly for contracts C2- BRT civil works and C1.4-station access road)								
A1	Mr. Zhou	Male	Han	24	Hairdresser	Yunshang barber shop (Yuming ave. BRT section)	Junior high school	**IN1-IN3**
A2	Ms. Qiu	Female	Han	n/a	Shopper	Lvyuan restaurant(Yuming ave. BRT section)	Senior high school	**IN4**
A3	Ms. Huang	Female	Han	n/a	Clerk	Everbright tourism agent (Huancheng south road BRT section)	Senior high school	**IN5-IN7**
A4	Ms. Liu	Female	Han	36	Clerk	Kington clothes shop (Gandong road BRT section)	Senior high school	**IN8-IN10**
A5	Mr. Guo	Male	Han	30	Villager	Bailing new village (Contract C1.4 Gandong road)	College	**IN11-IN12**

Re: Environmental Concerns extracted from the *Memorandum Of Understanding Of ADB Project Loan Review Mission During 7–9 November 2017* (dated 9 Nov 2017)

Para. 29 Grievance redress mechanism. It was confirmed that a Project Complaint Center (PCC) for safeguards grievance redress mechanism (GRM) has been established and a full-time staff has been appointed for operation of the GRM. During the site visits and the meetings, it was confirmed that no environmental complaint or grievance has been received so far. The IA informed that a variety of information disclosure (including TV, government website, WeChat portal, etc.) has been undertaken prior to construction commencement and continuously during construction. Although, per the Mission's past project experiences, concerns on temporary adverse impacts such as dust, noise, traffic, or utility interval might be raised by the potentially affected persons (APs) during BRT civil works construction. The Mission requested that the external environmental monitoring consultant and the loan implementation environmental consultant monitor implementation of the GRM. During discussions with the PMO, ADB requested the PMO to inform the external environmental monitoring consultant and ADB of any complaints received that are related to the project. ADB will closely monitor the GRM and its implementation.

Para. 30 Environmental monitoring and reporting. The sixth environmental monitoring report (EMR) covering the period July to December 2016 was disclosed in February 2017. The external environmental monitoring service contract (between FIDC and the independent consultant) has expired. All required deliverables have been submitted and approved as scheduled. As this project's physical completion date has been extended to 30 June 2019, per requirement in the Project Agreement and Loan Agreement, the PMO is requested to extend the contract (including engagement of local environmental sampling and test institute) in order to keep up external environmental monitoring until project completion, i.e., from original closing date January 2017 to new closing date 31 July 2019, during the period from now to which, at least four external semi-annual EMRs and an environmental project completion report (dated 31 December 2019) should be prepared. The Mission suggested that the extended contract should be ready in a timely manner. The schedule for future semiannual EMRs submission was confirmed (semiannually, 31 July in progress report and 30 December in stand-alone EMR, until completion of the whole project).

Para. 31 Observations during site visit. The Mission visited construction sites associated with Contract *C1.4: Gandong Road*, the Xianxiyao resettlement communities, Contract *C2: BRT* civil works, Contract *C3: urban transport hub*, and Contract *C4: Fenggang River greenway*. At construction sites, some garage and construction waste were observed being randomly disposed without proper collection; several construction sites were without appropriate fence; BRT alignment road traffic looked not well controlled at peak hour; a few electricity lines were exposed without proper protections; a number of construction workers were not equipped with personal protection equipment; and excavated trench was no presence of necessary supporting measures. It is requested that site construction management be improved and confirmed in the seventh EMR including documentation status of contractors' and CSCs' environmental performance.

Para. 32 Environmental mitigation cost and benefits data collection. The project will contribute to positive cumulative effects of the area urban development, through an increase in socioeconomic opportunities and standards of living, provision of new amenity resources (linear urban park), and improved public transport provision which will encourage modal shift and contribute to a reduction in congestion and emissions. The Fenggang River Improvement works are expected to have medium to long-term benefits by reducing flood risk to the new urban area and downstream areas through improved flood storage capacity. These benefits data are often difficult to accumulate at project completion review (PCR) stage in short notice. Since the three components (including some station access roads, Fenggang river improvement, and urban public transport hub) will be finished by end-2017 or mid-2018, the Mission agreed that the environmental mitigation cost and benefits data be collected and reported in the future EMRs and project progress reports. The external environmental monitoring consultant will provide related training to the contractors and CSCs, and report the domestic completion check and acceptance preparation status in a timely manner.

Para. 33 Environmental Impact. The addition of new underground power supply line and changes around the begging point along BRT corridor (para. **Error! Reference source not found.**) may be considered. The proposed power supply line component remains located under the current BRT alignment, so the incremental environmental impact is expected insignificant. ADB would need to review and confirm the safeguard requirements for a change of scope of this nature. If the environmental impacts are significant, an addendum to EIA should be prepared and submit to ADB for further approval. It was agreed that the external environmental monitoring consultant will prepare the environmental due diligence on the minor scope change and have it enclosed to the future environmental monitoring reports.

❶ o environmental complaint or grievance was received during this reporting period. The detailed GRM implementation status is reported in the **Chapter VI**.

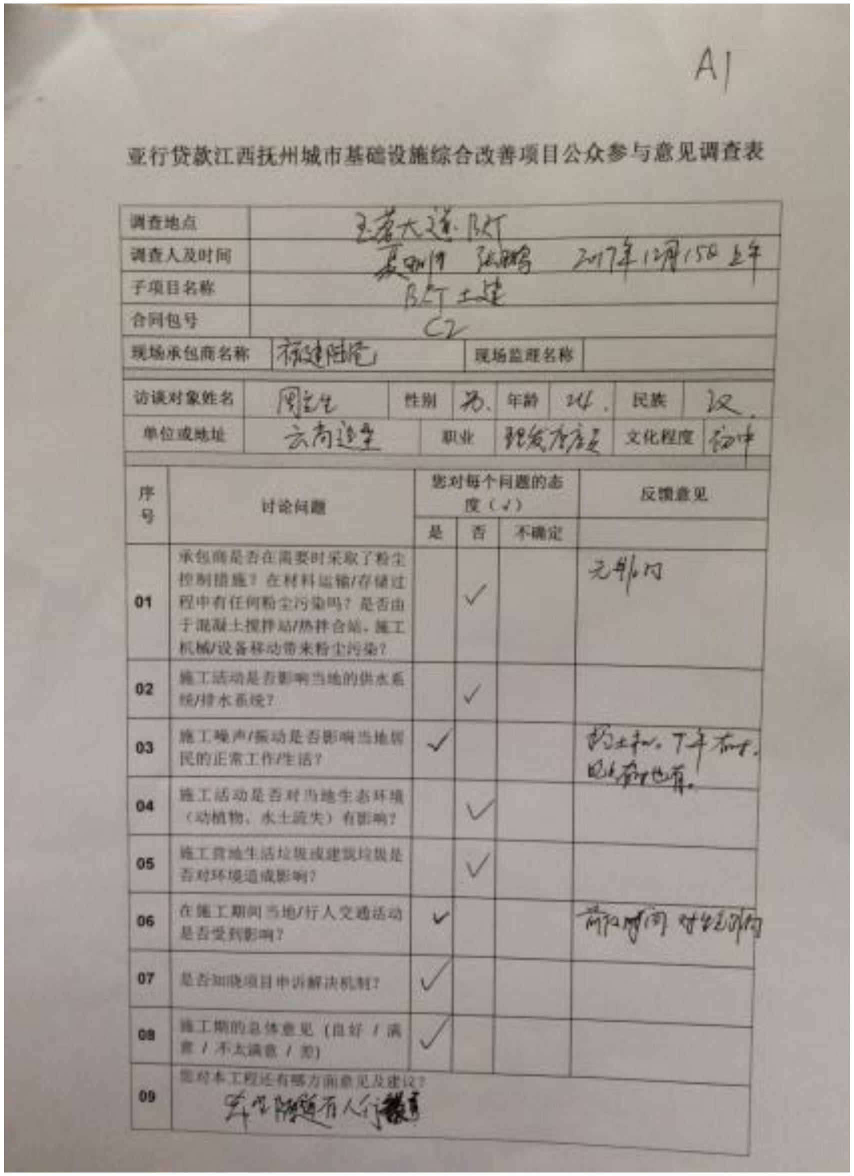
❷ In December 2017, the extended contract was signed. The schedule for future semiannual EMRs submission was confirmed (semiannually, 31 July in progress report and 30 December in stand-alone EMR, until completion of the whole project). This is the seventh EMR including comprehensive monitoring results and analysis (**Chapters IV to VII**).

❸ To address poor onsite environmental management issues, FIDC immediately urged the constructors and SEs to improve onsite environmental management. The contractors and SEs organized relevant training to the onsite construction workers in order to raise their environmental awareness and facilitate sound construction practice based on the CEMPs; and strengthen supervision and environmental monitoring. In December 2017 respectively, FIDC and the independent external environmental consultant undertook further training and inspected all the construction sites and confirmed general compliance (for more details please see the **paras. 30 to 33** in the **section D** of **Chapter V** below, **Appendix 2 Site Visit Notes** and **Appendix 3**).

❹ In Dec 2017, the external environmental monitoring consultant provided related training and disseminated the sample contract completion environmental data list to the contractors and CSCs. In the next (8th) reporting period, the external environmental monitoring consultant will further collect environmental mitigation cost and benefits data, and report those with the domestic completion check and acceptance preparation status in the 8th EMR due 31 Jul 2018.

❺ In Dec 2017, the IA (FIDC) acknowledged that as the proposed BRT design improvement will involve the national highway having heavy truck traffic so with potential traffic safety risks, the proposal was still being considered, and not yet determined. In addition, FIDC informed that the Fuzhou electric company submitted a proposal to FMG in Sept. 2017. However, the FMG has not decided which additions will be applied for the potential ADB loan saving. Therefore, safeguard impact assessment documents (especially environment) will be prepared for ADB's review once the design is revised or the decision is made. For details. Please see the **paras. 6 to 9** of **Chapter I**.

❶
N



A1

亚行贷款江西抚州城市基础设施综合改善项目公众参与意见调查表

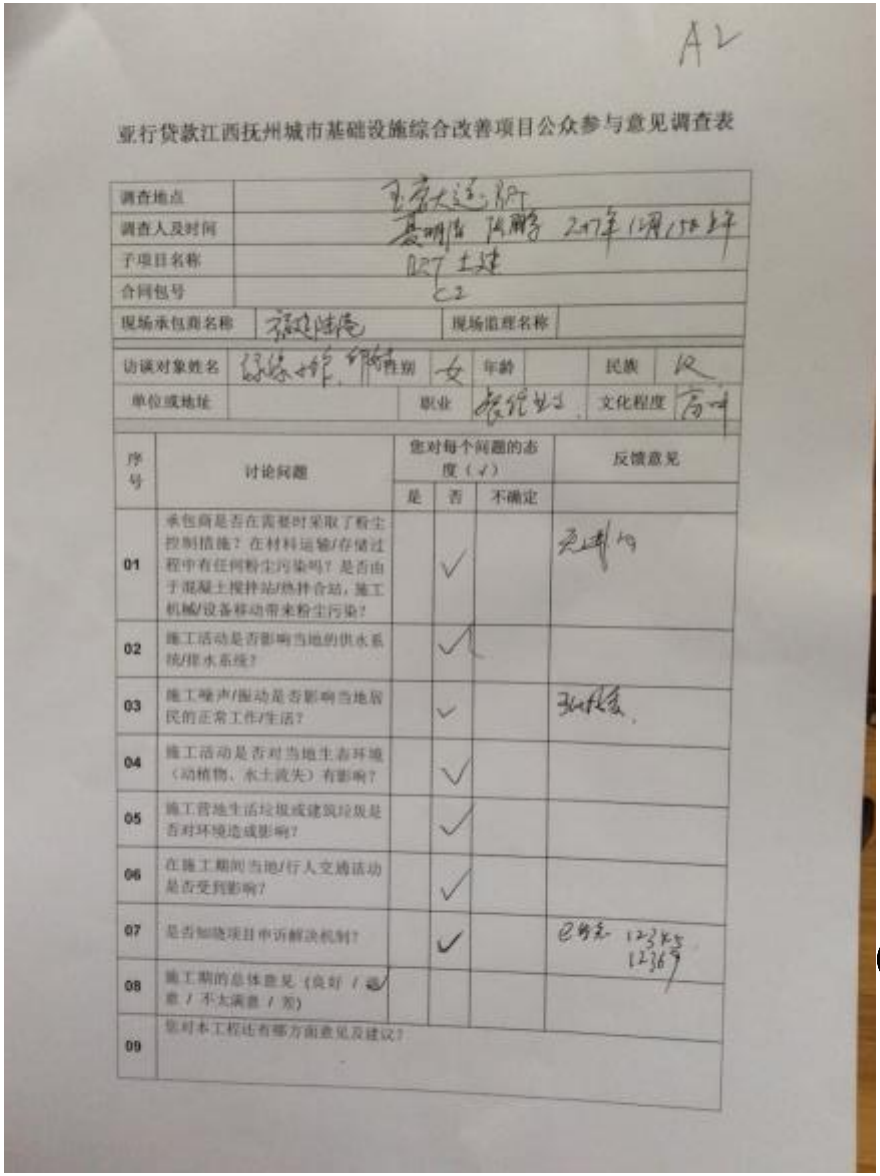
调查地点	玉茗大道·BRT						
调查人及时间	[illegible] 2017年12月15日 上午						
子项目名称	BRT土建						
合同包号	C2						
现场承包商名称	[illegible]			现场监理名称			
访谈对象姓名	周先生	性别	男	年龄	[illegible]	民族	汉
单位或地址	[illegible]	职业	[illegible]	文化程度	初中		

序号	讨论问题	您对每个问题的态度（√）			反馈意见
		是	否	不确定	
01	承包商是否在需要时采取了粉尘控制措施？在材料运输/存储过程中有任何粉尘污染吗？是否由于混凝土搅拌站/热拌合站、施工机械/设备移动带来粉尘污染？		√		无影响
02	施工活动是否影响当地的供水系统/排水系统？		√		
03	施工噪声/振动是否影响当地居民的正常工作/生活？	√			[illegible]
04	施工活动是否对当地生态环境（动植物、水土流失）有影响？		√		
05	施工营地生活垃圾或建筑垃圾是否对环境造成影响？		√		
06	在施工期间当地/行人交通活动是否受到影响？	√			[illegible]
07	是否知晓项目申诉解决机制？	√			
08	施工期的总体意见（良好 / 满意 / 不太满意 / 差）	√			
09	您对本工程还有哪方面意见及建议？ [illegible]				

IN1 **Construction noises during afternoon or night.** FIDC communicated with the contractor. Night construction is prohibited strictly. Construction activities are conducted by sections, and at each section last for about 1~2 months so with limited impacts. Fence is erected to mitigate noise and construction schedule is optimized to avoid impacts at normal rest time or important exam days. For details please see the **Appendix 3**.

IN2 **Inconveniences of travel during construction**. Traffic control plan during construction is approved by local traffic police department. Public notice was issued. Fence is erected to ensure safety and facilitate detour. Construction schedule is optimized to avoid impacts at peak hour. Traffic police direct communication at key intersections and peak hour. For details please see the **Appendix 3**.

IN3 **Pedestrian lane cross BRT corridor during operation.** FIDC informed that this has been considered in the project design. There will be a pedestrian lane or bridge with elevator access at an interval of every 500~800m.



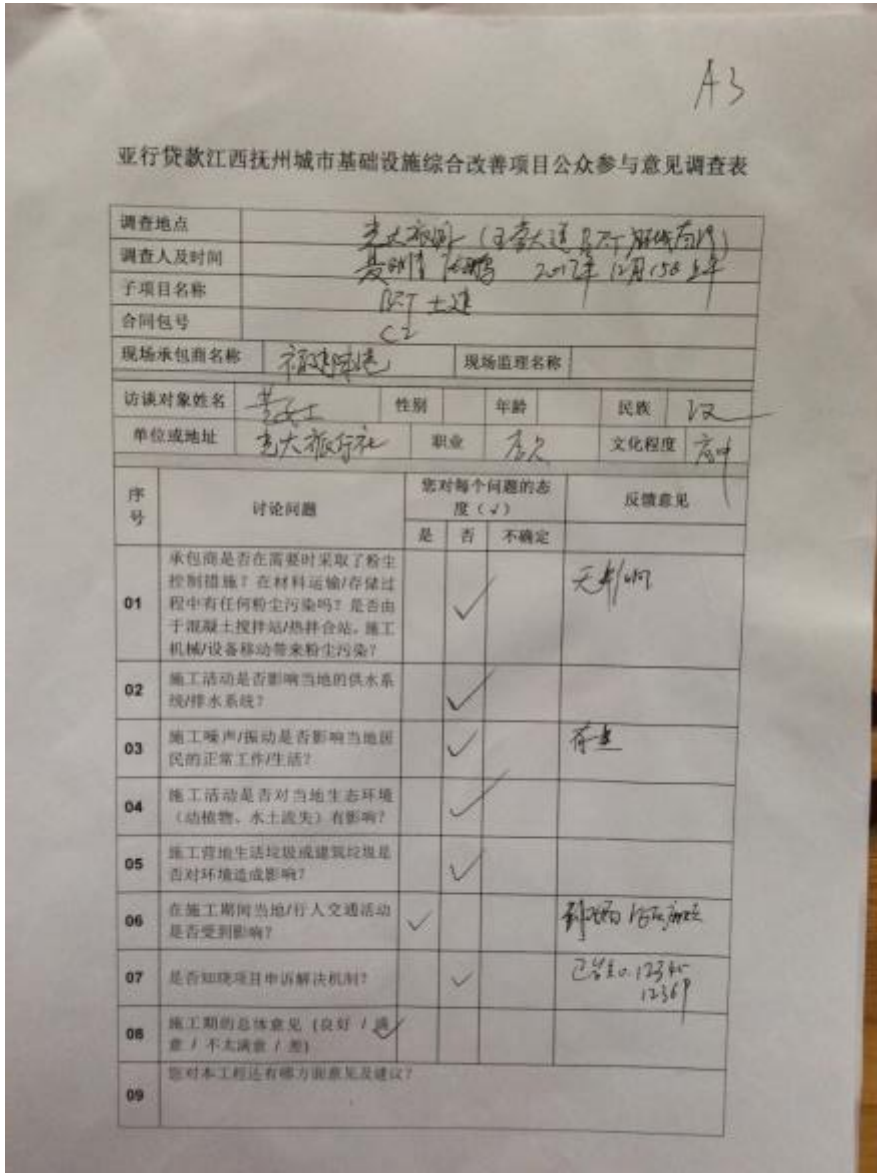
亚行贷款江西抚州城市基础设施综合改善项目公众参与意见调查表

调查地点					
调查人及时间					
子项目名称					
合同包号					
现场承包商名称		现场监理名称			
访谈对象姓名		性别	女	年龄	民族
单位或地址		职业		文化程度	

序号	讨论问题	您对每个问题的态度（✓）			反馈意见
		是	否	不确定	
01	承包商是否在需要时采取了粉尘控制措施？在材料运输/存储过程中有任何粉尘污染吗？是否由于混凝土搅拌站/热拌合站，施工机械/设备移动带来粉尘污染？		✓		
02	施工活动是否影响当地的供水系统/排水系统？		✓		
03	施工噪声/振动是否影响当地居民的正常工作/生活？		✓		
04	施工活动是否对当地生态环境（动植物、水土流失）有影响？		✓		
05	施工营地生活垃圾或建筑垃圾是否对环境造成影响？		✓		
06	在施工期间当地/行人交通活动是否受到影响？		✓		
07	是否知晓项目申诉解决机制？		✓		12345 12369
08	施工期的总体意见（良好 / 满意✓ / 不太满意 / 差）				
09	您对本工程还有哪方面意见及建议？				

IN4

IN4 **Availability of GRM channel**. During the public consultation, the FIDC and independent environmental consultant informed the phone numbers of PCC and the government hotlines (0794-12345 or 12369). Onsite signbords were being erected nearby the shop along Huancheng south road (see below figure). For details please see the **Chapter VI**.



A3

亚行贷款江西抚州城市基础设施综合改善项目公众参与意见调查表

调查地点							
调查人及时间							
子项目名称							
合同包号							
现场承包商名称			现场监理名称				
访谈对象姓名		性别		年龄		民族	
单位或地址		职业		文化程度			

序号	讨论问题	您对每个问题的态度（√）			反馈意见
		是	否	不确定	
01	承包商是否在需要时采取了粉尘控制措施？在材料运输/存储过程中有任何粉尘污染吗？是否由于混凝土搅拌站/热拌合站、施工机械/设备移动带来粉尘污染？		√		
02	施工活动是否影响当地的供水系统/排水系统？		√		
03	施工噪声/振动是否影响当地居民的正常工作/生活？		√		
04	施工活动是否对当地生态环境（动植物、水土流失）有影响？		√		
05	施工营地生活垃圾或建筑垃圾是否对环境造成影响？		√		
06	在施工期间当地/行人交通活动是否受到影响？	√			
07	是否知晓项目申诉解决机制？		√		
08	施工期的总体意见（良好 / 满意 / 不太满意 / 差）	√			
09	您对本工程还有哪方面意见及建议？				

IN5

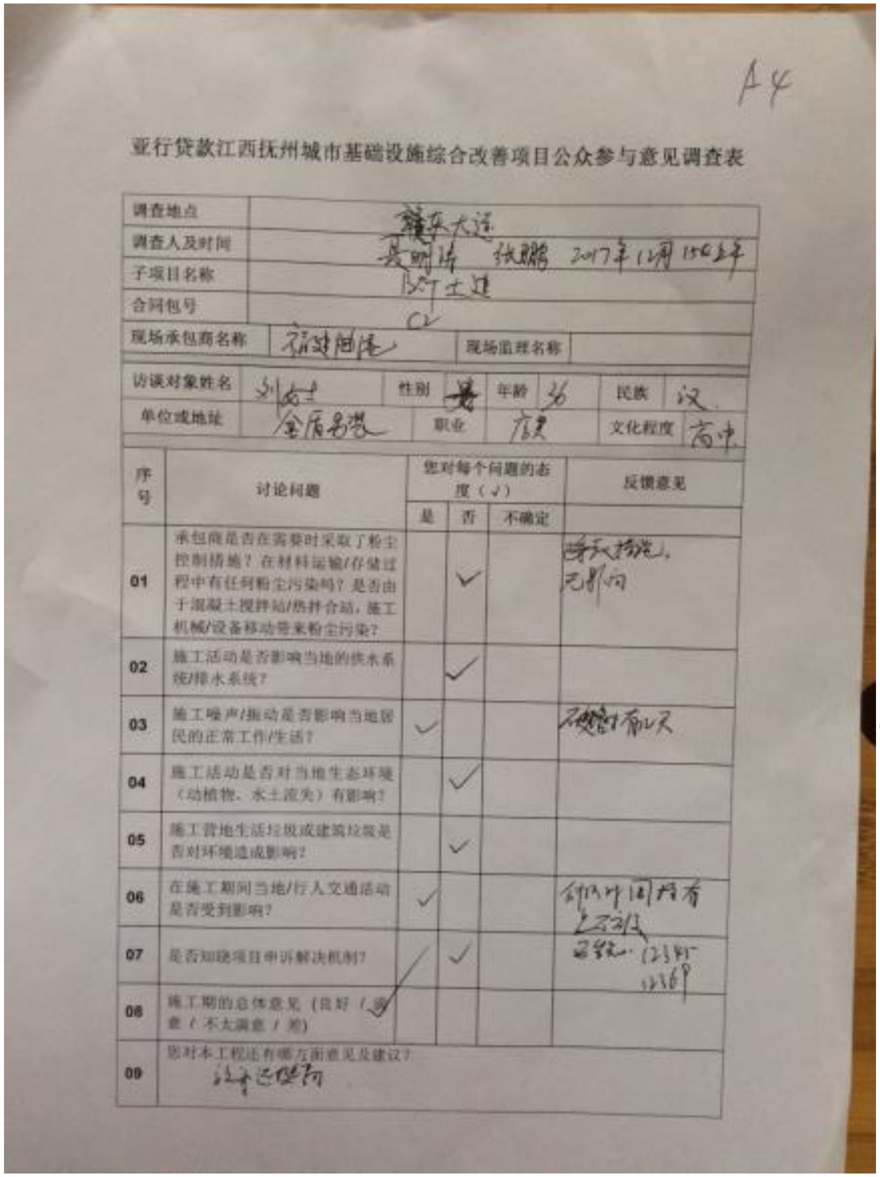
IN6

IN7

IN5 **Construction noises during afternoon or night.** Same for the above IN1.

IN6 **Inconveniences of travel during construction**. Same for the above IN2.

IN7 **Availability of GRM channel**. Same for the above IN4



A4

亚行贷款江西抚州城市基础设施综合改善项目公众参与意见调查表

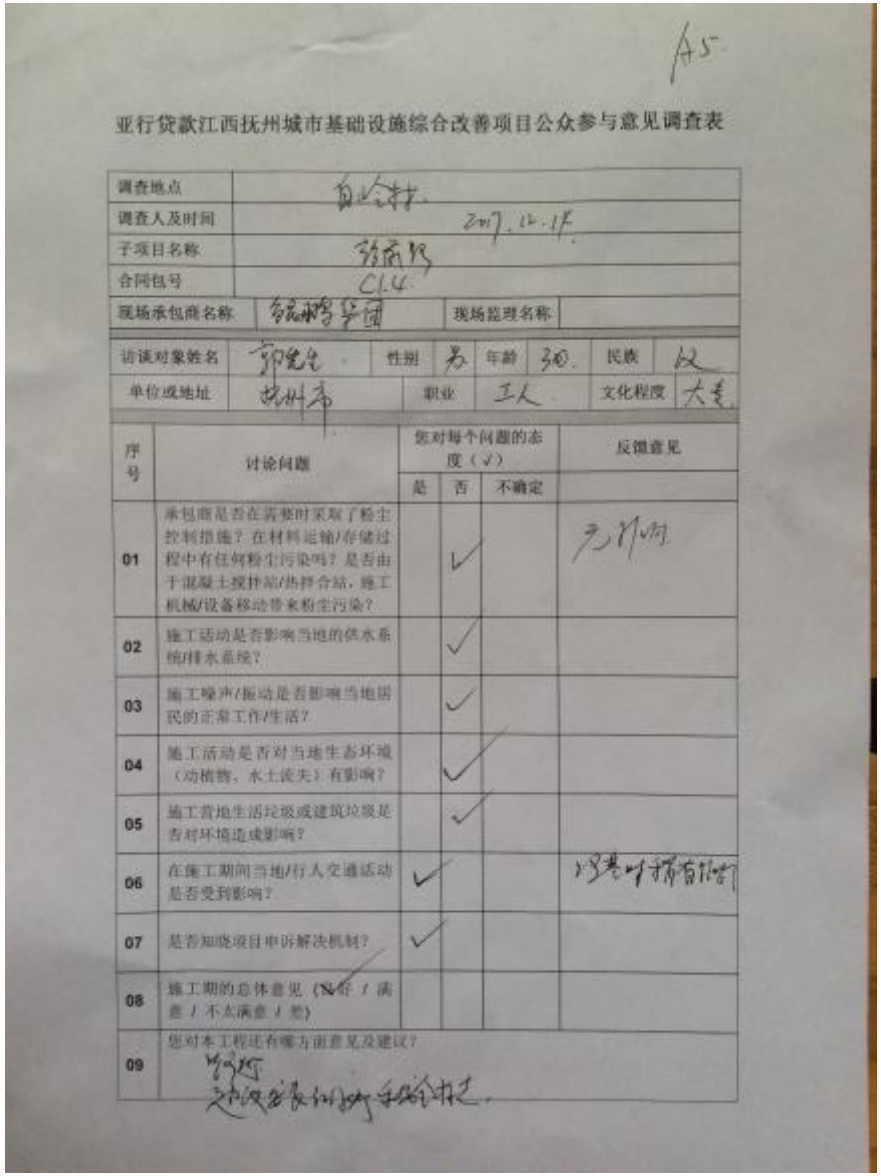
调查地点	赣东大道						
调查人及时间	2017年12月15日上午						
子项目名称							
合同包号	C2						
现场承包商名称		现场监理名称					
访谈对象姓名		性别		年龄		民族	汉
单位或地址		职业		文化程度	高中		

序号	讨论问题	您对每个问题的态度（√）			反馈意见
		是	否	不确定	
01	承包商是否在需要时采取了粉尘控制措施？在材料运输/存储过程中有任何粉尘污染吗？是否由于混凝土搅拌站/热拌合站，施工机械/设备移动带来粉尘污染？		✓		无影响
02	施工活动是否影响当地的供水系统/排水系统？		✓		
03	施工噪声/振动是否影响当地居民的正常工作/生活？	✓			
04	施工活动是否对当地生态环境（动植物、水土流失）有影响？		✓		
05	施工营地生活垃圾或建筑垃圾是否对环境造成影响？		✓		
06	在施工期间当地/行人交通活动是否受到影响？	✓			
07	是否知晓项目申诉解决机制？		✓		
08	施工期的总体意见（良好 / 满意 / 不太满意 / 差）				
09	您对本工程还有哪方面意见及建议？				

IN8 **Construction noises during afternoon or night.** Same for the above **IN1**.

IN9 **Inconveniences of travel during construction.** Same for the above **IN2**.

IN10 **Availability of GRM channel.** Same for the above **IN4**



A5

亚行贷款江西抚州城市基础设施综合改善项目公众参与意见调查表

调查地点	白论村.						
调查人及时间	2017.12.1F.						
子项目名称	郭东路						
合同包号	C1.4						
现场承包商名称	鹏宇集团		现场监理名称				
访谈对象姓名	郭先生	性别	男	年龄	30.	民族	汉
单位或地址	抚州市	职业	工人			文化程度	大专.

序号	讨论问题	您对每个问题的态度（√）			反馈意见
		是	否	不确定	
01	承包商是否在需要时采取了粉尘控制措施？在材料运输/存储过程中有任何粉尘污染吗？是否由于混凝土搅拌站/热拌合站，施工机械/设备移动带来粉尘污染？		√		无所谓
02	施工活动是否影响当地的供水系统/排水系统？		√		
03	施工噪声/振动是否影响当地居民的正常工作/生活？		√		
04	施工活动是否对当地生态环境（动植物，水土流失）有影响？		√		
05	施工营地生活垃圾或建筑垃圾是否对环境造成影响？		√		
06	在施工期间当地/行人交通活动是否受到影响？	√			没有影响
07	是否知晓项目申诉解决机制？	√			
08	施工期的总体意见（非常满意 / 满意 / 不太满意 / 差）				
09	您对本工程还有哪方面意见及建议？				

IN11

IN12

Figure Contract C1.4 Gandong Road intersection and the Bailing new village where a villager was consulted

IN11 **Inconveniences of travel during construction**. Same for the above IN2.

IN12 **Availability of lighting and traffic safety facitlities at intersection**. FIDC informed that these have been considered in the project design. There will be lights along the new Gangdong road and traffic safety facilities (including traffic lights, signboards and instructions) before the road is open to traffic.

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