

Project Administration Manual

Project Number: 48337-002
Loan Number: LXXXX
November 2016

Nepal: South Asia Subregional Economic
Cooperation Roads Improvement Project

ABBREVIATIONS

ADB	–	Asian Development Bank
CNP	–	Chitwan National Park
CSC	–	construction supervision consultant
DOR	–	Department of Roads
EIA	–	environmental impact assessment
EMOP	–	environmental monitoring plan
EMP	–	environmental management plan
FMA	–	financial management assessment
GESI	–	gender equality and social inclusion
ICB	–	international competitive bidding
IEE	–	initial environmental examination
MOPIT	–	Ministry of Physical Infrastructure and Transport
NCB	–	national competitive bidding
PIU	–	project implementation unit
SOE	–	statement of expenditure

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Project Administration Manual Purpose and Process

The project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with the policies and procedures of the government and Asian Development Bank (ADB). The PAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the PAM.

The Ministry of Physical Infrastructure and Transport (MOPIT) through the Department of Roads (DOR) is wholly responsible for the implementation of ADB-financed projects, as agreed jointly between the borrower and ADB, and in accordance with the policies and procedures of the government and ADB. ADB staff is responsible for supporting implementation including compliance by MOPIT of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

At loan negotiations, the borrower and ADB shall agree to the PAM and ensure consistency with the loan agreement. Such agreement shall be reflected in the minutes of the loan negotiations. In the event of any discrepancy or contradiction between the PAM and the loan agreement, the provisions of the loan agreement shall prevail.

After ADB Board approval of the project's report and recommendations of the President (RRP), changes in implementation arrangements are subject to agreement and approval pursuant to relevant government and ADB administrative procedures (including the Project Administration Instructions) and upon such approval, they will be subsequently incorporated in the PAM.

I. PROJECT DESCRIPTION

1. The project is proposed to rehabilitate and upgrade about 160 kilometers (km) of roads, particularly (i) the Narayanghat–Butwal section (about 115 km) and (ii) the Bhairahawa–Lumbini–Taulihawa section (about 45 km). The Narayanghat–Butwal section of the East-West highway (EWH) is an important segment of South Asian Association for Regional Cooperation (SAARC) Road Corridors 7 and 10¹ and the Asian Highway (Route A2).² The upgrading of the EWH section will extend the trade corridor to the less developed areas in the western parts of the country and support the economic development. The Bhairahawa–Lumbini–Taulihawa section will contribute to promote trade and tourism along the ‘Buddhist Circuit’.³ It will also improve connectivity to Bhairahawa, one of the major border crossing points with India and a potential special economic zone. Upgrading of this road section will directly link with the ongoing upgrade of Gautam Buddha International Airport in Bhairahawa.⁴ The Bhairahawa–Lumbini–Taulihawa road is important to serve in international connectivity since the Bhairahawa inland clearance depot is handling the country’s largest trade volume, and the second largest value, of imports and exports with India.

2. The impact will be enhanced transport connectivity within Nepal and with neighboring countries. The outcome will be improved road transport system.

3. The outputs will be (i) rehabilitated and upgraded road network, and (ii) improved road safety and maintenance. The roads will be upgraded to four lanes and two lanes, with bridges, proper median and shoulders, together with safety features and better climate resilience.⁵ Performance-based maintenance included in works contracts will be undertaken for 5 years after construction to ensure better asset quality and improved maintenance. The project will also provide (i) consulting services to support implementation of the civil works, and (ii) equipment to enhance road safety by establishing a road accident emergency response system.⁶

¹ SAARC is a regional intergovernmental organization (Afghanistan, Bangladesh, Bhutan, India, Nepal, the Maldives, Pakistan and Sri Lanka) and geopolitical union in South Asia formed in 1985.

² Other segments of the East-West highway are being upgraded by the World Bank and Millennium Challenge Corporation.

³ The Buddhist Circuit is a tourist route that follows the footsteps of the Lord Buddha’s journey.

⁴ ADB. 2009. *Report and Recommendation of the President to the Board of Directors: Proposed Loans, Asian Development Fund Grant, and Administration of Loan to People’s Republic of Bangladesh, India, and Nepal: South Asia Tourism Infrastructure Development Project*. Manila.

⁵ Twenty-one km of road from Lumbini to Taulihawa will be upgraded to two lanes, commensurate with its traffic volume. Climate adaptation measures include (i) increase of road embankment height by 20 cm, (ii) replacement of old pipe culverts to box culverts to accommodate increased flow, (iii) design of bridges to have a freeboard of 1.5 m above the high flow level, and (iv) bioengineering works for slope protection.

⁶ A study on the road accident emergency response system is being conducted under TA 8413-NEP: Capacity Strengthening for Sustainable Road Transport.

II. IMPLEMENTATION PLANS

A. Project Readiness Activities

Table 1: Project Readiness Activities

Indicative Activities	2016										Responsible Individual/Unit/Agency/Government	
	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb			
Advance contracting actions		■	■									DOR
Retroactive financing actions	■	■	■	■	■	■	■	■	■	■		MOF, DOR
Establish project implementation arrangements	■	■	■									DOR, MOPIT
ADB Board approval					■							ADB
Loan signing								■				ADB, MOF
Government legal opinion provided							■					MOF
Government budget inclusion	■	■										MOF
Loan effectiveness										■		ADB

ADB = Asian Development Bank, DOR = Department of Roads, MOF = Ministry of Finance, MOPIT = Ministry of Physical Infrastructure and Transport.

Source: ADB Fact-finding Mission (6-17 June 2016).

B. Overall Project Implementation Plan

Table 2: Implementation Schedule

Item	2016			2017			2018			2019			2020			2021			2022			2023			2024		
	F	M	A	F	M	A	F	M	A	F	M	A	F	M	A	F	M	A	F	M	A	F	M	A	F	M	A
A Project Preparation																											
1. Loan Processing and Approval by ADB																											
2. Loan Signing and Effectiveness																											
B Project Management/Implementation																											
1. Recruitment of Consultants																											
2. Consulting Services Execution																											
C Civil Works																											
1. Procurement (Advance Action)																											
2. Construction																											
D Safeguards, Social & Gender																											
1. Environment Management in Civil Works																											
2. Land Acquisition and Resettlement																											
3. Gender Mainstreaming Activities																											
E Performance Based Maintenance																											

ADB = Asian Development Bank
 Source: Asian Development Bank.

III. PROJECT MANAGEMENT ARRANGEMENTS

A. Project Implementation Organizations: Roles and Responsibilities

Table 3: Management Roles and Responsibilities

Project Implementation Organizations	Management Roles and Responsibilities
Executing agency	Ministry of Physical Infrastructure and Transport (MOPIT) <ul style="list-style-type: none"> • overall coordination of project implementation • interagency coordination
Implementing agency	Department of Roads (DOR), through its Project Directorate (ADB) <ul style="list-style-type: none"> • day-to-day project management • consultant recruitment and procurement of works • withdrawal applications • project progress reports • maintaining project financial statements and complete loan financial records
ADB	<ul style="list-style-type: none"> • monitor and review overall implementation of the project in consultation with the EA/IA including: project implementation schedule; actions required in terms of poverty reduction, environmental impacts, and resettlement plans; timeliness of budgetary allocations and counterpart funding; project expenditures; progress with procurement and disbursement; statement of expenditure; compliance with particular loan covenants; and the likelihood of attaining the project's immediate development objectives.

ADB = Asian Development Bank, EA = executing agency, IA = implementing agency.
Source: Asian Development Bank.

B. Key Persons Involved in Implementation

Executing Agency

Ministry of Physical Infrastructure and Transport (MOPIT)

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Implementing Agency

Department of Roads (DOR)

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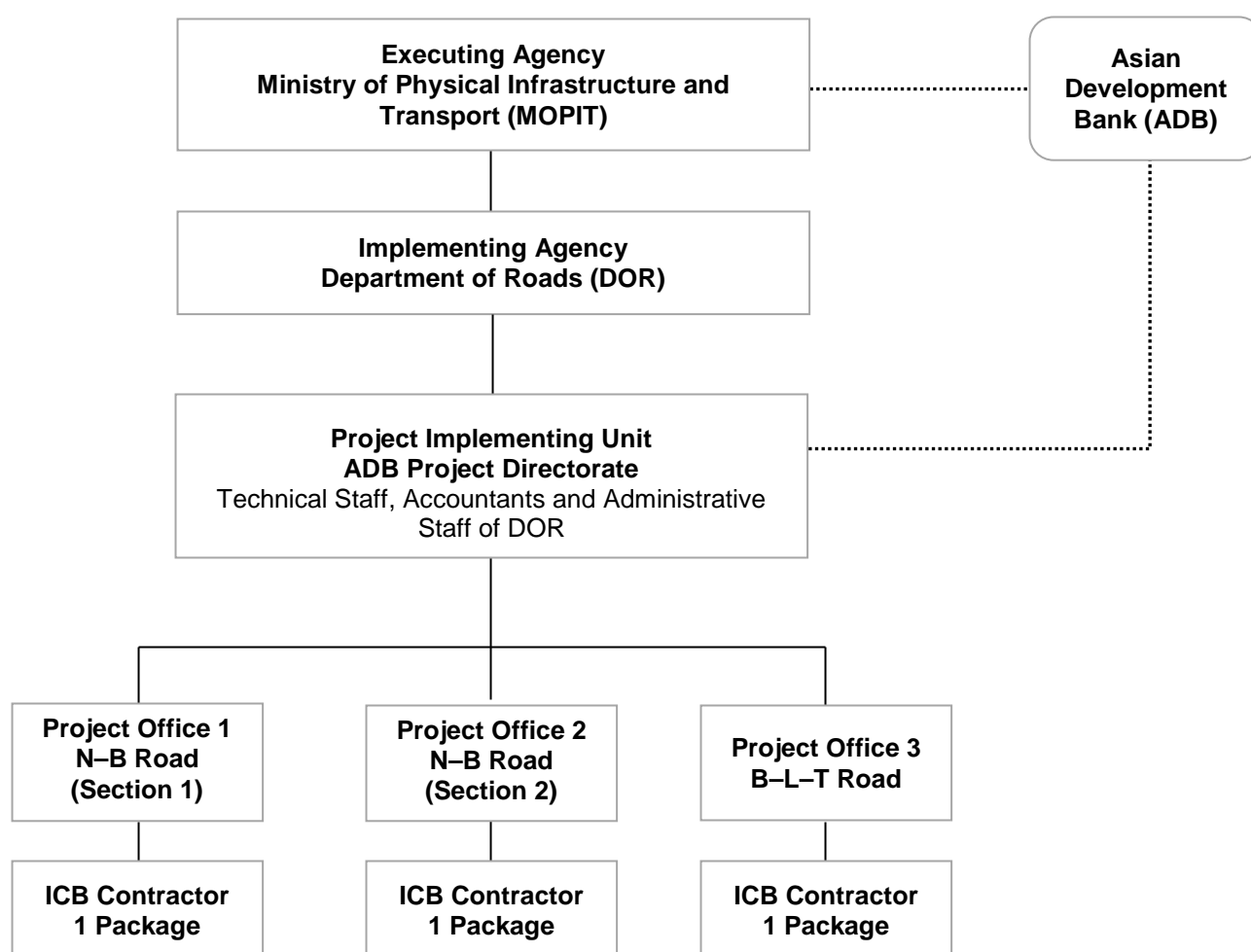
Asian Development Bank

Transport and Communications
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C. Project Organization Structure

Note: Each Project Office is headed by a project manager, who is supported by one engineer, one accountant, one administrative staff, one computer operator, two support staff, and two drivers.

B-L-T = Bhairahawa-Lumbini-Taulihawa, ICB = international competitive bidding, N-B = Narayanghat-Butwal.

Source: Asian Development Bank and Department of Roads.

IV. COSTS AND FINANCING

4. The project is estimated to cost \$256.50 million, including taxes and duties, physical and price contingencies, and interest during implementation. The investment plan is summarized in Table 4.

Table 4: Project Investment Plan
(\$ million)

Item	Amount ^a
A. Base Cost^b	
1. Roads ^{c,d}	211.6
2. Road safety and maintenance ^e	8.2
Subtotal (A)	219.8
B. Contingencies^f	34.3
C. Interest during Construction	2.4
Total (A+B+C)	256.5

^a Includes taxes and duties of about \$28.3 million to be financed from government resources (either exemption or through payment).

^b In mid-2016 prices.

^c Includes land acquisition, resettlement and afforestation.

^d Includes (i) construction supervision consultant, (ii) project management consultant, and (iii) government counterpart staff.

^e Includes the cost of (i) road accidents emergency response system, (ii) modern archive system, and environmental and air quality monitoring equipment.

^f Physical contingencies computed at 9% for civil works and 3% for consulting services. Price contingencies computed at 0.3% to 1.5% on foreign exchange costs and 7.0% to 7.7% on local currency costs in line with escalation rates published by the Asian Development Bank at <http://lnadbg1.asiandevbank.org/erd0004p.nsf/>; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

Source: Asian Development Bank.

5. The government has requested a loan in various currencies equivalent to SDR133,826,000 (\$186.8 million equivalent) from Asian Development Bank's (ADB) Special Funds resources. The loan will have a 32-year term, including a grace period of 8 years, an interest rate of 1.0% per annum during the grace period and 1.5% per annum thereafter, and such other terms and conditions set forth in the draft loan agreement.

6. The financing plan is in Table 5.

Table 5: Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank		
Special Funds resources (loan) ^a	186.80	73.00
Government	69.70	27.00
Total	256.50	100.00

^a \$60 million from ADF subregional 2015-2016.

Source: Asian Development Bank estimates.

A. Cost Estimates Preparation and Revisions

7. The cost estimates were prepared by ADB with information for the investment costs extracted from the consultants detailed project report.⁷ The cost estimates were based on May 2016 prices.

B. Key Assumptions

8. The following key assumptions underpin the cost estimates and financing plan:

- (i) Exchange rate: NPR105 = \$1.00 (as of June 2016).
- (ii) Price contingencies based on expected cumulative inflation over the implementation period are as follows:

Table 6: Escalation Rates for Price Contingency Calculation (%)

Item	2016	2017	2018	2019	2020	2021	Average
Foreign rate of price inflation	1.50	2.90	4.50	6.00	7.60	9.20	6.36
Domestic rate of price inflation	10.50	19.56	27.93	36.89	46.47	56.72	39.61

Source: Asian Development Bank.

⁷ The Asian Development Bank (ADB) provides a grant to Nepal for the Transport Project Preparatory Facility (Grant 0227-NEP for \$12 million) to prepare feasibility and detailed design of candidate roads.

C. Detailed Cost Estimates by Expenditure Category

Table 7: Cost Estimates by Expenditure Category
(\$ million)

Item	Gross Amount^a	% of Base Costs
A. Investment Costs		
1. Civil Works	204.72	93.1
2. Equipment	2.10	1.0
3. Land Acquisition, Resettlement and Afforestation	1.00	0.5
4. Consultancy Services	11.00	5.0
Subtotal (A)	218.82	99.5
B. Incremental Recurrent Costs		
Project Management ^b	1.00	0.5
Subtotal (B)	1.00	0.5
Total Base Cost	219.82	100.0
C. Contingencies		
1. Physical Contingencies	19.77	9.0
2. Price Contingencies	14.57	6.6
Subtotal (C)	34.34	15.6
D. Financing Charges During Implementation		
Interest and Commitment Charges	2.39	1.1
Subtotal (D)	2.39	1.1
Total Project Cost (A+B+C+D)	256.50	116.7

Note: Numbers may not sum precisely because of rounding.

^a Includes taxes and duties of about \$28.3 million.

^b Project Management includes office equipment, staff salaries, office and travel expenses of project staff, etc.
Source: Asian Development Bank estimates.

D. Allocation and Withdrawal of Loan Proceeds

9. Dollar equivalent for the ADB loan will be converted to SDR at the time of loan negotiations.

10. The ADB loan will be used for (i) civil works, (ii) equipment, (iii) consulting services, and (iv) interest during construction.

Table 8: Allocation and Withdrawal of Loan Proceeds

Number	Item	Total Amount Allocated for ADB Financing (SDR) Category	Percentage and Basis for Withdrawal from the Loan Account
1	Civil Works	123,985,000	84.5% of total expenditure claimed
2	Equipment	1,433,000	100% of total expenditure claimed*
3	Consultancy Services	6,699,000	85% of total expenditure claimed
4	Interest During Construction	1,709,000	100% of amounts due
	Total	133,826,000	

* Exclusive of taxes and duties imposed within the territory of the Borrower.

E. Detailed Cost Estimates by Financier**Table 9: Cost Estimates by Financier**
(\$ million)

Item	ADB		Government		Total Cost
	Amount	%	Amount	%	
A. Investment Costs					
1 Civil Works	173.06	84.5	31.66	15.5	204.72
2 Equipment	2.00	95.2	0.10	4.8	2.10
3 Land Acquisition, Resettlement and Afforestation	0.00	0.0	1.00	100.0	1.00
4 Consultancy Services	9.35	85.0	1.65	15.0	11.00
Subtotal (A)	184.41	84.3	34.41	15.7	218.82
B. Incremental Administrative Costs					
Project Management ^a	0.00	0.0	1.00	100.0	1.00
Subtotal (B)	0.00	0.0	1.00	100.0	1.00
Total Base Cost	184.41	83.9	35.41	16.1	219.82
C. Contingencies					
1 Physical Contingencies	0.00	0.0	19.77	100.0	19.77
2 Price Contingencies	0.00	0.0	14.57	100.0	14.57
Subtotal (C)	0.00	0.0	34.34	100.0	34.34
D. Financing Charges During Implementation					
Interest Charges	2.39	100.0	0.00	0.0	2.39
Subtotal (D)	2.39	100.0	0.00	0.0	2.39
Total Project Cost (A+B+C+D)	186.80	72.8	69.75	27.2	256.50
% Total Project Cost		72.8		27.2	100%

Note: Numbers may not sum precisely because of rounding.

^aProject Management includes office equipment, staff salaries, office and travel expenses of project staff, etc., bank charges, local transport, insurance and office equipment, and operations.

Source: Asian Development Bank estimates.

F. Detailed Cost Estimates by Outputs and/or Components

Table 10: Detailed Cost Estimates by Outputs
(\$ million)

Item	Output 1 Roads Built and Upgraded	Output 2 Road Safety and Maintenance Improved	Total
A. Investment Costs			
1. Civil Works	200.72	4.00	204.72
2. Equipment	-	2.10	2.10
3. Land Acquisition, Resettlement and Afforestation	1.00	-	1.00
4. Consultancy Services	9.35	1.65	11.00
Subtotal (A)	211.07	7.75	218.82
B. Incremental Recurrent Costs			
Project Management	0.50	0.50	1.00
Subtotal (B)	0.50	0.50	1.00
Total Base Cost	211.57	8.25	219.82
C. Contingencies			
1. Physical Contingencies			19.77
2. Price Contingencies			14.57
Subtotal (C)			34.34
D. Financing Charges During Implementation			
Interest and Commitment Charges			2.39
Subtotal (D)			2.39
Total Project Cost (A+B+C+D)			256.50

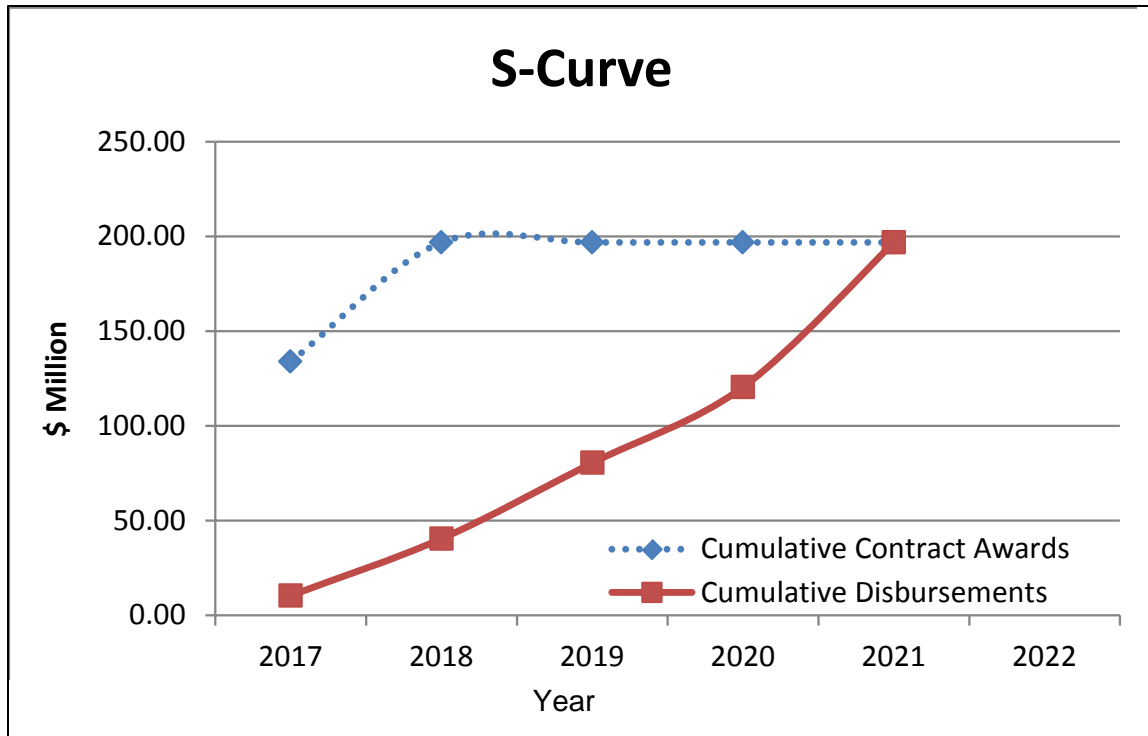
Note: Numbers may not sum precisely because of rounding.
Source: Asian Development Bank estimates.

G. Detailed Cost Estimates by Year**Table 11: Detailed Cost Estimates by Year**
(\$ million)

Cost Incurred by Year	Total Cost	2017	2018	2019	2020	2021
Annual Expenditure %	100%	5%	20%	30%	20%	25%
A. Investment Costs						
1. Civil Works	204.72	10.24	40.94	61.42	40.94	51.18
2. Equipment	2.10	0.11	0.42	0.63	0.42	0.53
3. Land Acquisition, Resettlement and Afforestation	1.00	0.05	0.20	0.30	0.20	0.25
4. Consultancy Services	11.00	0.55	2.20	3.30	2.20	2.75
Subtotal (A)	218.82	10.94	43.76	65.65	43.76	54.71
B. Recurrent Costs						
Project Management	1.00	0.05	0.20	0.30	0.20	0.25
Subtotal (B)	1.00	0.05	0.20	0.30	0.20	0.25
Total Base Cost	219.82	10.99	43.96	65.95	43.96	54.96
C. Contingencies						
1. Physical Contingencies	19.77	0.99	3.95	5.93	3.95	4.94
2. Price Contingencies	14.57	0.73	2.91	4.37	2.91	3.64
Subtotal (C)	34.34	1.72	6.87	10.30	6.87	8.58
D. Financial Charges During Implementation						
Interest and Commitment Charges	2.39	0.12	0.48	0.72	0.48	0.60
Subtotal (D)	2.39	0.12	0.48	0.72	0.48	0.60
Total Project Cost (A+B+C+D)	256.50	12.83	51.31	76.96	51.31	64.14

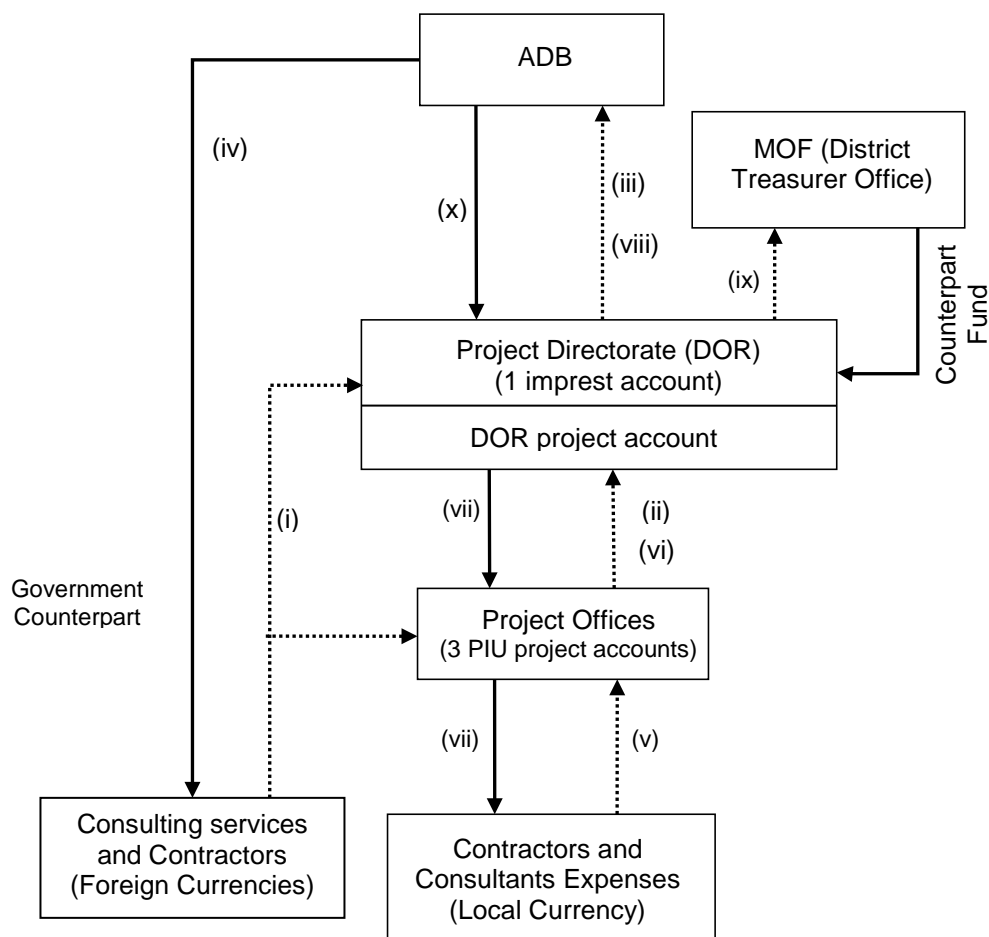
Note: Numbers may not sum precisely because of rounding.

Source: Asian Development Bank estimates.

H. Contract Awards and Disbursement S-Curve

I. Fund Flow Diagram

11. The following diagram shows how the funds will flow from ADB and the Borrower to implement project activities.



Notes on funds flow:

..... Documents Flow
 ——— Funds Flow

For Direct Payment to Contractors and Consultant

- (i) Contractors and consultants issue claims to Project Offices/DOR
- (ii) Project Offices sends contractors/consultants' invoices to DOR for direct payment from ADB and other evidence of payment of government counterpart to DOR
- (iii) DOR sends request to ADB for direct payments together with contractors/consultants' invoices
- (iv) ADB makes direct payment to contractors and consultants

For Other Expenditures

- (v) Contractors (local currency) issue claims to Project Office/DOR
- (vi) Project Offices sends expenditure statement to DOR including contractors' local currency
- (vii) Project Offices/DOR makes payment from advances provided to the imprest account
- (viii) DOR consolidates statement of expenditures and request ADB for liquidation and replenishment
- (ix) Consolidated expenditure statement from DOR to MOF on monthly basis
- (x) ADB makes replenishment to imprest account

ADB = Asian Development Bank, DOR = Department of Roads, MOF = Ministry of Finance, PIU = Project Implementation Unit.

Source: Asian Development Bank and Department of Roads.

V. FINANCIAL MANAGEMENT

A. Financial Management Assessment

12. An updated financial management assessment (FMA)⁸ has been conducted for the Department of Roads (DOR), which is the implementing agency for the proposed SASEC Roads Improvement Project (SRIP), in accordance with ADB's *Guidelines for the Financial Management and Analysis of Projects* (the Guidelines).⁹ The FMA focuses on fund flows, staffing, accounting policies and procedures, internal controls, financial reporting and monitoring, and internal and external audit. The purpose of this updated FMA is to ensure that adequate financial management arrangements are in place for the proposed SRIP. The Project Directorate under DOR is responsible for the implementation of the project.

13. The FMA draws on lessons learned during the implementation of past and existing projects, various sector level governance assessments, and interviews with Project Directorate (ADB) and other relevant staff.

14. The overall financial management risk is considered Moderate, revised from Substantial in the earlier FMA carried out for the Nepal Earthquake Emergency Assistance Project, due to stable release of funds to the projects and completion of the project level audits up to 2014–2015. However, at the Project Directorate (ADB), (i) the internal audit function is weak, (ii) project financial records are maintained manually and full utilization of the Financial Management Information System (FMIS) software for ADB projects is still to be done, and (iii) human resource capacity requires to be supplemented by more training in ADB policies and procedures.

15. Risk mitigating measures to partially manage the weaknesses in the financial management process include:

- Department training of project implementation staff on financial and procurement rules and guidelines of both the Government of Nepal (GON) and ADB by October 2016;
- Project team to conduct dialogue with DOR to establish an independent and effective internal audit function within 1 year from loan effectiveness. Meanwhile, a financial expert will be engaged as part of project management team to conduct internal checks and control;
- Project Directorate (ADB) will provide resolutions to outstanding audit findings noted in the management letter of existing projects within 3 months; and
- Financial expert will coordinate with DOR to integrate the unified web-based project monitoring and FMIS of DOR with ADB project accounting and reporting.

16. Despite the issues noted above, DOR is successfully implementing ongoing ADB-funded projects. Audited ADB project financial statements are submitted on time, and the statutory auditor has been issuing clean, unqualified audit opinions. The established accounting, reporting and budgeting procedures are in place in line with GON regulations and with adequate accounting staff. To further strengthen the capacity of financial accounting, a full-time financial expert will be engaged in DOR Project Directorate throughout the life of the project.

⁸ Document is available upon request.

⁹ ADB. 2015. *Financial Management Assessment-Technical Guidance Note*. Manila.

17. Summary of the overall risks are given below:

Table 12: Control Risk Summary

Risk Type	Risk Description	Risk Assessment	Proposed Mitigation Measures
1. Country Level	Absorption capacity of GON departments for capital expenditure and adequacy of O&M budget.	Substantial	Close monitoring is required for timely implementation of the project.
2. Executing Entity	Implementation capacity of MOPIT, the executing agency, and DOR, the implementing agency.	Low	
3. Funds Flow	Timely release of funds to the project is very important to the success of the project.	Low	
4. Staffing	Shortage of accounting staff at Project Directorate (ADB) and PIU levels.	Low	
5. Accounting Policies and Procedures and reporting	While policies and procedures are well documented, and DOR is using GON accounting standards, there is scope for improvement in the implementation of PEFA recommendations.	Moderate	Existing GON policies and procedures are followed. GON is in the process of implementing the PEFA recommendations on a phased basis. The compliance status of project loan covenants will be reported and assessed through the quarterly progress reports and verified by ADB review missions
6. Internal Audit	Internal Audit Function is generally weak.	Substantial	Full time financial expert is engaged under the project to provide support.
7. External Audit (project level)	OAG has the constitutional mandate to conduct external audits of donor-funded projects. Annual project audit reports are produced within 6 to 9 months of the end of the financial year. Compliance reports are prepared and submitted in response to audit findings (paras) for disposal of the same.	Low	
8. External Audit (entity level)	OAG will carry out the audit of DOR.	Low	
9. Reporting and Monitoring	At Project Directorate (ADB) level all GON reporting systems are in place. Routine reports are produced from the Accounting System – others are prepared on spreadsheets with figures extracted from the accounting system.	Low	
10. Information Systems	Financial Management Information System is followed in the DOR. Project accounts are entered into this software and GON reports are prepared. ADB reports are prepared in the spread sheet and scope for integration into the software is there.	Moderate	Possibility of Integration of the ADB reports in the existing software to be considered.
Overall Control Risk		Moderate	

ADB = Asian Development Bank, DOR = Department of Roads, GON = Government of Nepal, MOPIT = Ministry of Physical Infrastructure and Transport, OAG = Office of the Auditor General, O&M = operation and maintenance, PEFA = Public Expenditure Financial Accountability, PIU = Project Implementing Unit.

Source: Asian Development Bank and Department of Roads.

B. Disbursement

18. The loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2015, as amended from time to time), and detailed arrangements agreed upon between the government and ADB. Online training for project staff on disbursement policies and procedures is available.¹⁰ Project staff are encouraged to avail of this training to help ensure efficient disbursement and fiduciary control.

19. **Imprest fund procedure.** Immediately after loan effectiveness, DOR will establish an imprest account for the ADB loan at the Nepal Rastra Bank to be used exclusively for ADB's share of eligible expenditures. The currency of the imprest account will be the US dollar. The request for initial advance to the imprest account should be accompanied by an estimate of expenditure sheet setting out the estimated expenditures for the first 6 months of project implementation.¹¹ The total outstanding advance, initial and additional, should not exceed the estimate of ADB's share of expenditures to be paid through the imprest account for the forthcoming 6 months. For every liquidation and replenishment request of the imprest account, the borrower will furnish to ADB (i) statement of account (Bank Statement) issued by the bank where the imprest account is maintained, and (ii) the imprest account reconciliation statement (IARS) reconciling the above mentioned bank statement against Ministry of Finance's (MOF) records.¹²

20. **Statement of expenditure procedure.**¹³ The statement of expenditure (SOE) procedure will be adopted for reimbursement of eligible expenditures, and liquidation and replenishment of the imprest account. As the FMA shows DOR has adequate capacity, no ceiling is imposed on the amount of expenditure that may be submitted to ADB using the SOE procedure for reimbursing and liquidating the imprest account. SOE records should be maintained and made readily available for review by ADB's disbursement unit and review missions or upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit. Procedures for establishing and operating the imprest account and SOE procedures are detailed in the *Loan Disbursement Handbook* (2015, as amended from time to time). DOR will be responsible for submitting withdrawal applications to ADB.

21. DOR will submit to ADB annual contract awards and disbursement projections before the start of each calendar year using ADB's standard templates. DOR is responsible for (i) requesting budgetary allocations for counterpart funds, (ii) collecting supporting documents for the project, and (iii) preparing and sending withdrawal applications to ADB.

22. Before the submission of the first withdrawal application, the borrower should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the borrower, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application is US\$100,000 equivalent, unless otherwise approved by ADB. The borrower is to consolidate claims to meet this limit for reimbursement and imprest account claims.

¹⁰ Disbursement eLearning. http://wpqr4.adb.org/disbursement_elearning

¹¹ Available in Appendix 29 of the *Loan Disbursement Handbook*.

¹² Follow the format provided in Appendix 30 of the *Loan Disbursement Handbook*.

¹³ SOE forms are available in Appendix 9B and 9C of ADB's *Loan Disbursement Handbook* (2015, as amended from time to time).

C. Accounting

23. DOR will maintain, or cause to be maintained, separate books and records by funding source for all expenditures incurred on the project. DOR will prepare project financial statements (PFSs) in accordance with the government's accounting laws and regulations which are consistent with international accounting principles and practices. PFSs shall include at a minimum, a statement of receipts and payments with accompanying notes and schedules. PFS shall include all expenditures incurred under the project including loan and government counterpart funds. These shall be prepared to ensure maximum alignment to Nepal Public Sector Accounting Standards and Government of Nepal's Financial Procedures, Act and Rules. Detailed Statement of Audit Needs shall be provided during implementation.

D. Auditing and Public Disclosure

24. The Ministry of Physical Infrastructure and Transport (MOPIT) will cause the detailed project financial statements to be audited in accordance with auditing standards and by an independent auditor acceptable to ADB. The audited project financial statements, together with the auditors' report and management letter, will be submitted in the English language to ADB within 6 months of the end of the fiscal year by the executing agency. The annual audit report will include a separate audit opinion, which will cover (i) whether the project financial statements present a true and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting framework; (ii) whether the loan proceeds were used only for the purposes of the project or not; and (iii) the level of compliance for each financial covenant contained in the legal agreements for the project. A management letter shall also be provided.

25. Compliance with financial reporting and auditing requirements will be monitored by review missions and during normal program supervision, and followed up regularly with all concerned, including the external auditor.

26. The government, MOPIT and DOR have been made aware of ADB's approach to delayed submission, and the requirements for satisfactory and acceptable quality of the audited project financial statements.¹⁴ ADB reserves the right to require a change in the auditor (in a manner consistent with the constitution of the borrower), or for additional support to be provided to the auditor, if the audits required are not conducted in a manner satisfactory to ADB, or if the audits are substantially delayed. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

27. Public disclosure of the audited project financial statements, including the auditor's opinion on the project financial statements, will be guided by ADB's *Public Communications*

¹⁴ ADB's approach and procedures regarding delayed submission of audited project financial statements:

- (i) When audited project financial statements are not received by the due date, ADB will write to the executing agency advising that (a) the audit documents are overdue; and (b) if they are not received within the next 6 months, requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement, and issuance of new commitment letters will not be processed.
- (ii) When audited project financial statements are not received within 6 months after the due date, ADB will withhold processing of requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement, and issuance of new commitment letters. ADB will (a) inform the executing agency of ADB's actions; and (b) advise that the loan may be suspended if the audit documents are not received within the next 6 months.
- (iii) When audited project financial statements are not received within 12 months after the due date, ADB may suspend the loan.

Policy 2011.¹⁵ After the review, ADB will disclose the audited project financial statements and the opinion of the auditors on the project financial statements no later than 14 days of ADB's confirmation of their acceptability by posting them on ADB's website. The management letter will not be disclosed.¹⁶

VI. PROCUREMENT AND CONSULTING SERVICES

A. Advance Contracting

28. All advance contracting will be undertaken in conformity with ADB's *Procurement Guidelines* (2015, as amended from time to time)¹⁷ and ADB's *Guidelines on the Use of Consultants* (2013, as amended from time to time).¹⁸ The issuance of invitations to bid under advance contracting will be subject to ADB approval. The borrower, MOPIT and DOR have been advised that approval of advance contracting does not commit ADB to finance the project.

29. Advance action was approved in April 2016, when the Project's concept paper was approved, for procurement of works and recruitment of consultants. This expedited the consultant selection process, including finalization of the request for proposal; and the tender process of the works, including preparation of the bidding documents for civil works and call for tender. The DOR has experience in implementing ADB-financed projects. This capacity is further increased by a World Bank project¹⁹ and an ADB project.²⁰ The latter includes training for procurement and practices in contract management.

B. Procurement of Goods, Works, and Consulting Services

30. All procurement of goods and works will be undertaken in accordance with ADB's *Procurement Guidelines* (2015, as amended from time to time).

31. International competitive bidding (ICB) procedures will be used for civil works contracts estimated to cost more than \$5 million, and goods contracts estimated to cost more than \$2 million. National competitive bidding (NCB) will be used for civil works contracts of \$5 million or less and goods contracts of \$2 million or less. Shopping will be used for procurement of works and goods estimated to cost less than \$100,000. Further, domestic preference will be provided to ICB contracts for goods and works in accordance with ADB Guidelines for Procurement Guidelines (2015, as amended from time to time).

32. The government will inform ADB of the changes made to the national procurement regulations, if any, and carry out a joint review of the NCB Annex if necessary to ensure consistency with ADB guidelines. The procurement plan should be updated whenever change in the procurement arrangements and/or the NCB Annex is required and agreed.

¹⁵ Public Communications Policy: <http://www.adb.org/documents/pcp-2011?ref=site/disclosure/publications>

¹⁶ This type of information would generally fall under public communications policy exceptions to disclosure. ADB. 2011. *Public Communications Policy*. Paragraph 97(iv) and/or 97(v).

¹⁷ Available at: <http://www.adb.org/Documents/Guidelines/Procurement/Guidelines-Procurement.pdf>

¹⁸ Available at: <http://www.adb.org/Documents/Guidelines/Consulting/Guidelines-Consultants.pdf>

¹⁹ The World Bank's support focuses on management information systems, road safety, safeguard implementation, quality control, and human resources management.

²⁰ ADB. 2006. *Report and Recommendation of the President to the Board of Directors: Proposed Asian Development Fund Grant and Technical Assistance Grant to the Kingdom of Nepal for the Road Connectivity Sector 1 Project*. Manila (Grant 0051-NEP for \$55.2 million and TA 4825-NEP for \$0.3 million).

33. An 18-month procurement plan indicating threshold and review procedures, goods, works, and consulting service contract packages and national competitive bidding guidelines is in Attachment A (Procurement Plan). All consultants will be recruited according to ADB's *Guidelines on the Use of Consultants* (2013, as amended from time to time).²¹ The terms of reference for all consulting services are detailed in Attachments B and C.

34. All procurement activities will be the responsibility of the project director (PD) of the project implementation unit (PIU), who will be supported by his staff and consultants. ADB will closely monitor all major project implementation activities. Civil works contracts will comprise three ICB packages. All contracts will be procured in accordance with ADB's Procurement Guidelines.

35. A firm of international consultants in association with domestic consultants will support the PIU in (i) contract administration and construction supervision for the road construction component, and (ii) implementing resettlement plans and social aspects such as HIV/AIDS and human trafficking. The consultants will also support the road sector institutions in the fields of road technologies, road asset management/maintenance and project management. About 501 person-months of international consultants and 1,791 person-months of national consultants will be required for this. These consultants will be recruited under a firm, using ADB's quality-and-cost-based selection (QCBS) under full technical proposal (FTP). Individual international and national consultants will be engaged for project management support, capacity building and external monitoring for environment safeguard to PIU PD. About 24 person-months of international and 124 person-months of national consultants will be required.

C. Procurement Plan

36. The procurement plan is in Attachment A and describes all procurement of good and works to be undertaken for the project based on the Procurement Capacity Assessment undertaken for the executing agency.

D. Consultants' Terms of Reference

37. The consultants' terms of reference are provided in the following:

Construction Supervision Consultants	Attachment B
Project Management Consultants (Individual)	Attachment C

VII. SAFEGUARDS

38. **Prohibited investment activities.** Pursuant to ADB's Safeguard Policy Statement (2009), ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the Safeguard Policy Statement (2009).

A. Environment

39. The project is classified as category A in accordance with ADB's Safeguard Policy Statement (2009) because 24 km of the Narayanghat–Butwal road is adjacent to the buffer zone of the Chitwan National Park (CNP) and has many animals, including the Bengal Tiger and

²¹ Checklists for actions required to contract consultants by method available in e-Handbook on Project Implementation at: <http://www.adb.org/documents/handbooks/project-implementation/>

Greater One Horned Rhinoceros, crossing the road at that section. These two species are classified as endangered and vulnerable, respectively, under the International Union for Conservation of Nature (IUCN) and is protected under the National Parks and Wildlife Conservation Act of Nepal. The Bhairahawa–Lumbini–Taulihawa road is classified as category B. An environmental impact assessment (EIA) has been prepared for the Naryanghat–Butwal road and an initial environmental examination (IEE) for the Bhairahawa–Lumbini–Taulihawa road. The EIA and IEE include an environmental management plan (EMP) and an environmental monitoring plan (EMOP). Budget estimates have been provided for both plans.

40. The EIA for the Narayanghat–Butwal road requires approval from the Ministry of Science, Technology and Environment of the Government of Nepal. The IEE of the Bhairahawa–Lumbini–Taulihawa road requires approval from MOPIT. Approval of the EIA and IEE will be secured by the DOR PIU before the start of construction works for both roads.

41. The EMP outlines measures to mitigate all anticipated environment impacts during project construction and operation and will be included in the contract agreement with the respective civil works contractor. Specific mitigation measures with details on location, time and responsible agency for implementation is given in the EMP. The EMOP specifies procedures for checking various environment quality parameters and the effectiveness of the EMP. It comprises activities on testing the quality of air, water, and noise through laboratory tests and physical monitoring of problems of soil erosion, tree plantations and occupational health and safety issues.

42. **Implementation arrangements for environment safeguards.** The responsibilities of various agencies and parties for implementing environment safeguards are provided below.

43. **Department of Roads Project Implementing Unit.** DOR will be responsible for ensuring the implementation of environment safeguards under the project as required in the EIA, IEE and respective EMP in accordance with the ADB Safeguard Policy Statement and environmental and health and safety regulations of the Government of Nepal. DOR will ensure timely processing and securing of all statutory clearances and permits such as the environmental clearance, tree cutting permits and others. The PIU has one environmental officer who will also be responsible for managing the overall implementation of environment safeguards under the project. Semi-annual environmental monitoring reports submitted by the construction supervision consultant (CSC) will be reviewed and endorsed and forwarded to ADB for disclosure on the ADB website during construction. The PIU will coordinate with and seek technical support and guidance from the management of CNP and the Department of National Parks and Wildlife Conservation (DNPWC) for implementation of biodiversity conservation activities as given in the EIA for the Narayanghat–Butwal road. During operation and implementation of the performance-based maintenance, the PIU will be responsible for monitoring environment safeguards with necessary inputs from the contractor and CNP and submitting annual environmental monitoring reports to ADB for disclosure on the ADB website.

44. **Construction supervision consultant.** The CSC will be responsible for supervising implementation of the EMP and EMOP by the contractor. The CSC will include a team of one environmental expert and one wildlife expert. Site level environmental focal persons will be appointed within the CSC's on-site team for daily supervision and monitoring of on-site EMP implementation. All sub-plans such as construction camp layout, waste management, borrow area management, traffic management, tree plantation and others, prepared by the contractor, will be reviewed and approved by the CSC. The wildlife expert will elaborate and finalize the biodiversity conservation plan in coordination with CNP. In addition, the wildlife expert will liaise

with CNP and other local Forestry officials and monitor implementation of the compensatory afforestation program and biodiversity conservation activities for CNP and its buffer zone.

45. The environmental expert will review and verify monthly environmental reports prepared by the contractor. Based on site inspections, monthly environmental reports from the contractor and implementation progress of the biodiversity conservation plan, the wildlife expert and the environmental expert will prepare consolidated semi-annual environmental monitoring reports during construction. The reports will be submitted to DOR PIU for their endorsement and submission to ADB for disclosure on the ADB website. The CSC will organize semi-annual stakeholder consultation workshops to present the findings of the semi-annual environmental monitoring report and invite relevant stakeholders such as DNPWC, CNP, World Wildlife Fund (WWF) Nepal and others as mentioned in the EIA report. The CSC will also carry out capacity building activities on implementation of environment safeguards through training workshops and on-site training for relevant staff of DOR and the contractor.

46. **Contractor.** The contractor will implement the EMP and EMOP. The contractor will recruit a team of qualified environmental health and safety experts within 30 days of contract signing. These personnel will be present in all construction and camp-sites and ensure day to day implementation of the EMP throughout the construction stage. Quality testing of air, water and noise as required in the EMOP may be outsourced by the contractor to specialized agencies while physical monitoring activities will be carried out by the CSC. Monthly environmental monitoring reports will be prepared for review and approval by the CSC.

47. The contractor constructing the Narayanghat–Butwal road section located beside the CNP will coordinate with the warden and forest rangers of CNP for implementing biodiversity conservation activities within CNP and its buffer zone as given in the EIA report for this road. The budget (approximately \$500,000) for these activities will be sourced from the provisional sum of the civil works contract and provided to CNP.

48. **Chitwan National Park.** CNP will designate a focal person for the Narayanghat–Butwal road project. This focal person under the guidance of the park warden and in collaboration with the CSC wildlife expert, other forest rangers, Buffer Zone Community Forestry Management Groups and other forestry groups will implement the biodiversity conservation plan. The budget for implementing these biodiversity conservation activities (approximately \$500,000) will be sourced from the provisional sum of the respective civil works contractor's budget. The CNP focal person will be responsible for preparing necessary reports, accounting documents, etc., required for sourcing the funds.

49. **External monitor.** DOR will recruit an independent environmental expert to conduct third party monitoring of the implementation of the EMP, EMOP, Biodiversity Conservation Plan and Compensatory Afforestation Program for the Narayanghat–Butwal road. Monitoring inspections will be conducted and reports prepared on a semi-annual basis during construction and submitted to ADB for disclosure on the ADB website.

B. Grievance Redress Mechanism

50. DOR will establish a grievance redress mechanism (GRM) to voice and resolve social and environmental concerns linked to the project and ensure greater accountability of the project authorities towards all affected persons. This mechanism is not intended to bypass the government's own legal process, but to provide a time-bound and transparent mechanism that is readily accessible to all segments of the affected people and road residents. All costs

involved in resolving the complaints (meetings, consultations, communication and reporting/information dissemination) will be borne by the project.

Table 13: Grievance Redress Mechanism

Field-Level Committee	Local-Level Committee	Project-Level Committee
<ul style="list-style-type: none"> • Social mobilizers • Contractor Environmental/Social Focal Point 	<ul style="list-style-type: none"> • DOR site engineer • Village Development Committee Representative • CSC Social mobilizer • 2 representatives designated by affected community local level (man/woman) 	<ul style="list-style-type: none"> • PM DOR • Chief District Officer • Local Development Officer • CSC Resettlement Expert • CSC Environmental Expert

CSC = construction supervision consultant, DOR = Department of Roads.

Source: ADB. 2016. *Transport Project Preparatory Facility*. Project preparatory consultant (PPC-2 Road) draft feasibility study report. Manila (Grant 0227-NEP).

C. Involuntary Resettlement and Indigenous Peoples

51. The project is categorized as B for involuntary resettlement given its moderate physical and economic resettlement impacts on 49 households (271 persons). The project design minimizes land acquisition and involuntary resettlement while adopting the most feasible technical features. A full census of the areas was conducted. The project is categorized as C for indigenous peoples. The social due diligence identified that out of the 49 households (271 persons) affected, 31 households (188 persons) will have to physically relocate. Most of the structures affected are commercial (60%) and belong to non-title holders. The project is expected to require minor strips of land acquisition (0.016 hectares) affecting 18 households, 17 of which will lose less than 10% of their plot.

52. Two resettlement plans, one for each road, have been prepared for this project. The resettlement plans provide mitigation measures and resettlement assistance commensurate to the impacts identified. The entitlement matrix includes measures to ensure compensations at replacement costs, shifting and reconstruction assistance, special measures for vulnerable households such as financial assistance and participation to a skills training program. The cost of resettlement activities is estimated at NRs 50,100,000 (around USD 500,000), which will be borne entirely by the Government of Nepal.

53. The Project Directorate of DOR will be responsible for the implementation of the two resettlement plans with the support of the supervision consultant resettlement team, which will include a national resettlement expert, a livelihood expert and 3 field staff. Three field-level PIUs headed by project managers will be established. The project managers will be responsible for implementing and supervising the resettlement activities at the field level and coordinate with the chief district officers and other line agencies active in resettlement activities. A resettlement specialist will also be recruited to support DOR at the Directorate and field PIU level in reviewing the work conducted by the supervision consultant.

VIII. GENDER AND SOCIAL DIMENSIONS

54. **Poverty reduction and social impact.** The project's direct area of influence includes around 673,000 people living in 24 villages and municipalities crossed by the two project roads. The poverty rate in the project area is around 18%, which is below the national average of 25.2%. The major sources of income are trade and business (18%), remittances (18%),

services (11%), rent (10%) and selling agricultural produce (8%). Tourism is prominent and growing in the project area, given that the roads link to the United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site of Lumbini and the CNP. Most of the project area has access to grid electricity and sanitation, and half of the residents have access to pipe water. The results of household surveys and focus group discussions conducted as part of the poverty and social assessment indicate that the project will increase economic and employment opportunities.

55. **Gender.** The poverty and social analysis included a gender assessment based on the socioeconomic characteristics of 2,634 women and consultations with 139 women. Overall, women were supportive of the project and viewed it as a way to facilitate their access to economic opportunities and services.

56. **Gender equality and social inclusion (GESI) action plan.** The project is categorized as effective gender mainstreaming (EGM). The social due diligence identified gender-specific issues and social risks related to the project in addition to resettlement impacts. They are presented in the report and recommendation of the president (RRP) to the Board and summary poverty reduction and social strategy (SPRSS). To address these issues, a GESI Action Plan has been developed with proactive gender-mainstreaming and mitigation measures.²² The Project Directorate of DOR will be responsible for the implementation of the GESI Action Plan with the support of the gender and social specialist team (GESI team) of the CSC. The GESI team will consist of a Gender, HIV/AIDS and livelihood expert, a human trafficking officer and six field-based social mobilizers. This team will be responsible for conducting the various community awareness campaigns outlined in the project, monitoring GESI targets and compliance with core labor standards and preparing the GESI monitoring report.

57. **Labor.** Project construction is expected to generate employment opportunities for local communities during the construction and maintenance phases. Provisions are in the bidding and contractual documents for the contractors to ensure that all the civil works comply with core labor standards (e.g. no child labor; no bonded labor; no work discrimination regardless of gender, race, and ethnicity; and freedom of association and collective bargaining). This will be monitored by the supervision consultant social expert.

58. **HIV and human trafficking.** The National Center for AIDS and Sexually Transmitted Disease Control under the Ministry of Health and Population coordinates activities by stakeholders committed under the National AIDS Strategy, 2006–2011.²³ This emphasizes prevention as the most effective response. Anti-human trafficking activities are coordinated by the Ministry of Women, Children, and Social Welfare. A large amount of information and print material on human trafficking has been developed with the support of the United States Agency for International Development, which will be reproduced for use in project areas. The project incorporates measures to mitigate HIV risks and anti-human trafficking by having consultants undertake awareness programs in the corridors of influence. The contractors will carry out sexually transmitted infection (STI) and human trafficking awareness sessions for their laborers at work sites, which will be monitored by the CSC.

²² GESI Action Plan (accessible from the list of linked documents in Appendix 2).

²³ National Center of AIDS and STD Control. 2011. *National HIV/AIDS Strategy*. Kathmandu.

IX. PERFORMANCE MONITORING, EVALUATION, REPORTING, AND COMMUNICATION

A. Project Design and Monitoring Framework

Impact the Project is Aligned with			
Transport connectivity within Nepal and with neighboring countries enhanced (Fourteenth Plan [FY2017–2019]) ^a			
Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
Outcome Road transport system improved	By 2023 a. Average travel time along project roads reduced by 25% (2016 baseline: 1.2 minutes per km) b. 1,890,000 km of average daily vehicle-kilometers in the first full year of operation achieved (2016 baseline: 1,330,000 km) c. Road signage meets the requirements of the road safety audit upon project completion	a–c. Post-implementation measurement and traffic survey by DOR	Inability of the government to provide counterpart funds on time.
Outputs 1. Road network rehabilitated and upgraded	By 2022 1a. 160 km of roads is completed with road safety features friendly to elderly people, women, children, and people with disabilities at appropriate locations ^b 1b. Conduct awareness-raising sessions on preventive human trafficking to 2,000 communities (including 50% women) and HIV/AIDS and STIs to 500 communities (including 40% women) 1c. 30% women participation in the tree plantation program	1a–c. Monitoring reports and PCR by DOR	Implementation delayed by extreme weather conditions
2. Road safety and maintenance improved	By 2022 2a. Road accident emergency response system installed in selected road section	2a–d. Post-implementation survey by DOR	Changes in DOR management

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
	2b. Road safety measures installed, such as signs and rumble strips, to protect targeted populations, including women and girls 2c. Conduct road safety awareness campaigns to 3,000 community (including 40% women) 2d. 5-year performance-based road maintenance contract implemented		
<p>Key Activities with Milestones</p> <p>Output 1: Road network rehabilitated and upgraded</p> <p>1.1 Award contract and mobilize construction supervision consultant by Q1 2017</p> <p>1.2 Award contracts for the upgrade of 160 km of roads by Q1 2017</p> <p>1.3 Complete construction by Q3 2020</p> <p>Output 2: Road safety and maintenance improved</p> <p>2.1 Conduct road safety audit by Q1 2020</p> <p>2.2 Implement road accident emergency response system by Q4 2020</p> <p>2.3 Start implementation of performance-based maintenance contracts under the project by Q3 2020</p> <p>Inputs</p> <p>ADB: \$186.80 million (loan)</p> <p>Government: \$69.70 million</p> <p>Assumptions for Partner Financing</p> <p>Not Applicable</p>			

ADB = Asian Development Bank, DOR = Department of Roads, km = kilometer, PCR = project completion report, Q = quarter, STI = sexually transmitted infection.

^a Government of Nepal, National Planning Commission. 2016. *An Approach Paper of Fourteenth Plan (FY2017–2019)*. Kathmandu.

^b Features include well-marked crossings, safety signage, and pedestrian walkways.

Source: Asian Development Bank.

C. Monitoring

59. **Project performance monitoring.** The achievement of the project performance targets will be assessed following the design and monitoring framework. DOR, assisted by the CSC, will establish a project performance management system. Indicators to be monitored include (i) traffic volume; (ii) bus and freight transport fares; (iii) travel time or riding speed; (iv) vehicle operating costs; (v) surface roughness; and (vi) road accidents. In addition, socioeconomic secondary data will be obtained at the divisional level, including (i) number of businesses; (ii) household income; (iii) vehicle ownership; (iv) unemployment rate; (v) land value; (vi) average travel time to schools; and (vii) average travel time to hospitals. These indicators will be monitored before and after construction, both on the project roads and on some control roads. In addition, every year during the project period, DOR will also monitor the (i) road maintenance budget; (ii) staff–km ratio of strategic road network (SRN) roads; and (iii) road maintenance cost per km. Achievement of the capacity development activities will also be monitored. For civil

works, progress will be monitored and reported monthly by the CSC. The project beneficiaries' satisfaction will be surveyed during and after project implementation. Disaggregated baseline data for output and outcome indicators gathered during project processing will be updated and reported through the quarterly progress reports from DOR, and after each ADB review mission. These quarterly reports will provide information necessary to update ADB's project performance reporting system.²⁴

60. **Compliance monitoring.** Compliance with covenants will be monitored through ADB's project administration missions—including project inception mission to discuss and confirm the timetable for compliance with the loan covenants; project review missions to assess the government's compliance with particular loan covenants and, where there is any noncompliance or delay, discuss proposed remedial measures with the government; and mid-term review mission, if necessary, to assess whether the covenants are still relevant or need to be changed, or waived due to changing circumstances.

61. **Environment safeguard monitoring.** Monthly reports on implementation of the mitigation measures on site will be maintained by the contractor. Based on these records and site inspections, the CSC environmental and wildlife experts will prepare semi-annual environmental monitoring reports during construction for review and approval by DOR PIU and further submission to ADB for disclosure on the ADB website. If there are any changes in the design or alignment or unanticipated environmental impacts, the EMP will be updated to account for any additional or new environmental impacts. Further, the need for revising the EIA or IEE report during project construction will also be reviewed and confirmed in discussion with ADB. The external monitor will monitor environment safeguard activities under the Narayanghat–Butwal road on a semi-annual basis during construction and on an annual basis during the first 3 years of operation. Accordingly, the external monitor will prepare semi-annual environmental monitoring reports during construction for disclosure on the ADB website.

62. **Involuntary resettlement monitoring.** DOR, with the support of the supervision consultant resettlement team, will set up an internal monitoring system with a set of process, outcome and impact baseline indicators. They will prepare semi-annual resettlement monitoring reports that will be submitted to ADB. The resettlement external monitor assisting DOR will verify the supervision consultant resettlement information through field work, data verification and consultations, and provide separate bi-annual reports to DOR and ADB. ADB will also assess the progress of resettlement activities during review missions.

63. **Gender and social dimensions monitoring.** The GESI activities will be monitored by the supervision consultant GESI team and submit semi-annual reports to ADB. ADB will assess the progress of these activities during review missions.

D. Evaluation

64. The project inception mission will be fielded soon after the legal agreements for the project are declared effective; thereafter, regular reviews will follow, at least annually. As necessary, special loan administration missions and a midterm review mission will be fielded, under which any changes in scope or implementation arrangement may be required to ensure achievement of project objectives. DOR will monitor project implementation in accordance with the schedule and time-bound milestones, and keep ADB informed of any significant deviations

²⁴ ADB's project performance reporting system is available at:
<http://www.adb.org/Documents/Slideshows/PPMS/default.asp?p=evaltool>

that may result in the milestones not being met. Within 6 months of physical completion of the Project, DOR will submit a project completion report to ADB.²⁵

E. Reporting

65. The DOR will provide ADB with (i) quarterly progress reports in a format consistent with ADB's project performance reporting system; (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions, (c) updated procurement plan, and (d) updated implementation plan for the next 12 months; and (iii) a project completion report within 6 months of physical completion of the project. To ensure that projects will continue to be both viable and sustainable, project accounts and the executing agency audited financial statement together with the associated auditor's report should be adequately reviewed.

F. Stakeholder Communication Strategy

66. Affected persons have been informed of the project social impacts, entitlements and grievance redress procedures during the consultation process undertaken during the preparation of the resettlement plans. During implementation, the supervision consultant resettlement team along with field-based DOR staff will conduct an information and dissemination campaign to inform the affected persons about the land acquisition and resettlement timeline, entitlements and contact information to submit grievances. This will be done through the distribution of simple one-page leaflets in Nepali along the corridor, posting signs in strategic locations, and conducting stakeholder consultation meetings. Moreover, a summary of the resettlement plan and the whole entitlement matrix will be translated into Nepali and made available locally in the offices of all village development committees and municipalities concerned by the project. The consultation activities undertaken during the implementation of the resettlement process will be documented in the resettlement monitoring reports.

67. Concerned stakeholders including local communities, local forestry officials, officials of CNP, relevant government agencies and NGOs have been consulted on environmental issues during project preparation. Technical recommendations on project design and biodiversity conservation provided by them have been included in the project. These stakeholders will continue to be consulted during project implementation and early stages of project operations through semi-annual stakeholder consultation workshops.

68. Project information will be disclosed to the general public and concerned stakeholders as per the following table.

²⁵ Project completion report format available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>

Table 14: Documents for Disclosure

Project Document	Means of Communications	Frequency	Audience
Project Data Sheet (PDS)	ADB website	Initial PID no later than 30 calendar days of approval of the concept paper; quarterly updates afterwards	General Public
Design and Monitoring Framework (DMF)	ADB website	Draft DMF after fact-finding mission	General Public
Environmental Impact Assessment for Narayanghat–Butwal road	ADB website	120 days prior to ADB management approval	General Public, project-affected people in particular
Initial Environmental Examination for Bhairahawa–Lumbini–Taulihawa road	ADB website	Post fact-finding mission	General Public, project-affected people in particular
Resettlement Plan	ADB website and DOR website	Post fact-finding mission	General Public, project-affected people in particular
Summary Poverty Reduction and Social Strategy (SPRSS)	ADB website	Post fact-finding mission	General Public, project-affected people in particular
Legal Agreements	ADB website	No later than 14 days of Board approval of the project	General Public
Project Administration Manual	ADB website	After loan negotiations	General Public
Social and Environment Monitoring Reports	ADB website and DOR website	Semi-annually	General Public

ADB = Asian Development Bank, DOR = Department of Roads.

Source: Asian Development Bank and Department of Roads.

X. ANTICORRUPTION POLICY

69. The government, MOPIT and DOR were advised of ADB's Anticorruption Policy (1998, as amended to date). Consistent with its commitment to good governance, accountability and transparency, ADB reserves the right to investigate any alleged corrupt, fraudulent, collusive, or coercive practices relating to the project. All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all project contractors, suppliers, consultants and other service providers. Individuals/entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the project.²⁶

70. To support these efforts, relevant provisions are included in the loan agreement/regulations and the bidding documents for the project.

71. The government will publish pertinent information relating to the project on DOR's website, including business opportunities associated with the project, and information in relation to procurement of goods, works, and consulting services.

XI. ACCOUNTABILITY MECHANISM

72. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make an effort in good faith to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.²⁷

XII. RECORD OF CHANGES TO THE PROJECT ADMINISTRATION MANUAL

73. All revisions and/or updates during the course of implementation should be retained in this section to provide a chronological history of changes to implemented arrangements recorded in the PAM, including revision to contract awards and disbursement s-curves.

²⁶ ADB's Integrity Office web site: <http://www.adb.org/integrity/unit.asp>

²⁷ Accountability Mechanism. <http://www.adb.org/Accountability-Mechanism/default.asp>

PROCUREMENT PLAN

Basic Data

Project Name: South Asia Subregional Economic Cooperation Roads Improvement Project	
Project Number: 48337-002	Approval Number:
Country: Nepal	Executing Agency: Ministry of Physical Infrastructure and Transport
Project Procurement Classification: Category B	Implementing Agency: Department of Roads
Project Procurement Risk: Moderate	
Project Financing Amount: US\$ 256,500,000 ADB Financing: US\$ 186,800,000 Cofinancing (ADB Administered): Non-ADB Financing: US\$ 69,700,000	Project Closing Date: 31 December 2021
Date of First Procurement Plan: 24 June 2016	Date of this Procurement Plan: 24 June 2016

A. Methods, Thresholds, Review and 18-Month Procurement Plan

1. Procurement and Consulting Methods and Thresholds

Except as the Asian Development Bank (ADB) may otherwise agree, the following process thresholds shall apply to procurement of goods and works.

Procurement of Goods and Works		
Method	Threshold	Comments
International Competitive Bidding for Goods	US\$ 2,000,000 and Above	
National Competitive Bidding for Goods	Between US\$ 100,001 and US\$ 1,999,999	Beneath that stated for ICB, Goods
Shopping for Goods	Up to US\$ 100,000	
International Competitive Bidding for Works	US\$ 5,000,000 and Above	
National Competitive Bidding for Works	Between US\$ 100,001 and US\$ 4,999,999	Beneath that stated for ICB, Works
Shopping for Works	Up to US\$ 100,000	

Consulting Services	
Method	Comments
Quality- and Cost-Based Selection for Consulting Firm	
Individual Consultants Selection for Individual Consultant	

2. Goods and Works Contracts Estimated to Cost \$1 Million or More

The following table lists goods and works contracts for which the procurement activity is either ongoing or expected to commence within the next 18 months.

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
SRIP/ICB/BLT 01	Bhairahawa-Lumbini-Taulihawa Road	23,560,000.00	ICB	Prior	1S2E	Q3 / 2016	Prequalification of Bidders: N Domestic Preference Applicable: Y Advance

							Contracting: Y Bidding Document: Large Works
SRIP/ICB/ NB 01	Narayanghat-Butawal Road	108,800,000.00	ICB	Prior	1S2E	Q3 / 2016	Prequalification of Bidders: N Domestic Preference Applicable: Y Advance Contracting: Y Bidding Document: Large Works
SRIP/ICB/ NB 02	Narayanghat-Butawal Road	72,500,000.00	ICB	Prior	1S2E	Q3 / 2016	Prequalification of Bidders: N Domestic Preference Applicable: Y Advance Contracting: Y Bidding Document: Large Works

3. Consulting Services Contracts Estimated to Cost \$100,000 or More

The following table lists consulting services contracts for which the recruitment activity is either ongoing or expected to commence within the next 18 months.

Package Number	General Description	Estimated Value	Recruitment Method	Review (Prior/ Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments
CS-01	Construction Supervision consultant	10,000,000.00	QCBS	Prior	Q3 / 2016	FTP	Assignment: International Quality-Cost Ratio: 90:10 Advance Contracting: Y Comments: As per RRP.
CS-02	Project Management Consultants	1,000,000.00	ICS	Prior	Q4 / 2016		Assignment: International Expertise: Project Management Advance Contracting: N
CS-03	Project Management Consultants	1,000,000.00	ICS	Prior	Q4 / 2016		Assignment: National

								Expertise: Project Management Advance Contracting: N
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4. Goods and Works Contracts Estimated to Cost Less than \$1 Million and Consulting Services Contracts Less than \$100,000 (Smaller Value Contracts)

The following table lists smaller-value goods, works and consulting services contracts for which the activity is either ongoing or expected to commence within the next 18 months.

Goods and Works								
Package Number	General Description	Estimated Value	Number of Contracts	Procurement Method	Review (Prior/Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
Equipment /Goods1	Supply of Equipment/Goods	100,000.00	1	SHOPPING	Post		Q4 / 2016	Advanced Contracting: N
Equipment /Goods2	Supply of Equipment/Goods	100,000.00	1	SHOPPING	Post		Q4 / 2016	Advanced Contracting: N

Consulting Services								
Package Number	General Description	Estimated Value	Number of Contracts	Recruitment Method	Review (Prior/Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments
None								

B. Indicative List of Packages Required Under the Project

The following table provides an indicative list of goods, works and consulting services contracts over the life of the project, other than those mentioned in previous sections (i.e., those expected beyond the current period).

Goods and Works							
Package Number	General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Procurement Method	Review (Prior/Post)	Bidding Procedure	Comments
Goods 01	Supply of Equipment/Goods	1,800,000.00	1	NCB	Prior	1S1E	Prequalification of Bidders: N Domestic Preference Applicable: Y Bidding Document: Goods

Consulting Services							
Package Number	General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Recruitment Method	Review (Prior/Post)	Type of Proposal	Comments
None							

C. National Competitive Bidding

National competitive bidding (NCB) shall be in accordance with that described as "by inviting bids and a national level" as set forth in "The Public Procurement Act, 2007" (PPA) and "The Public Procurement Regulations, 2007" (PPR) and subject to the following:

1. The first NCB document for both goods and works procurement shall be reviewed and approved by Asian Development Bank (ADB) prior to issue. These will be used for all NCB procurement under the project. The document shall include qualification and evaluation criteria and ADB's right to audit and inspect in accordance with para 1.14 of ADB's Procurement Guidelines (March 2013, as amended from time to time). No other criteria other than that described in the bidding document may be used to determine the lowest evaluated responsive bidder and no form of domestic preference may be employed. A positive assessment of a bidder's qualifications to perform a contract will be a pre-requisite to an award.
2. All qualified ADB member bidders and ADB member produced goods, services and works shall be eligible. Registration and licensing shall be permitted only as a condition of contract award and not participation in bidding. No award may be withdrawn for failure to obtain tax registration; license or fulfill any similar requirement without ADB's prior concurrence. No bidder will be held ineligible based on provision 63 of the PPA without ADB prior concurrence.
3. Invitations to bid shall be advertised in at least one widely circulated national daily newspaper or freely accessible, nationally-known website allowing a minimum of twenty-eight (28) days for the preparation and submission of bids. Invitations for bids for contracts estimated at \$500,000 or more for goods and \$1,000,000 or more for civil works shall be advertised on ADB's website. No restriction will be placed on the sale of bidding documents.
4. The approved Standing List of a Procuring Entity prepared in accordance with the law shall only be accepted to supplement an advertised open pre-qualification exercise for the specific contract provided that those on the standing list meet the qualification criteria.
5. Bids shall be opened at a single location immediately after the deadline for submission. Multiple locations for submission and opening are not acceptable.
6. Government-owned enterprises in Nepal shall be eligible to participate only if they meet the conditions of para 1.8 (c) of ADB's Procurement Guidelines (March 2013, as amended from time to time).
7. Extension of bid validity of more than 4 weeks beyond the original validity shall not be allowed without the prior concurrence of ADB.
8. Cancellation of bidding and re-bidding shall not be carried out without the prior concurrence of ADB.
9. Percentage variations from rates fixed by a district rate fixation committee shall not be used for the purpose of evaluating bids.

In the event of a conflict between these provisions and the law, these provisions shall prevail.

**TERMS OF REFERENCE FOR CONSULTING SERVICES OF
CONSTRUCTION SUPERVISION CONSULTANTS
FOR SASEC ROADS IMPROVEMENT PROJECT**

A. Short Title

1. Construction Supervision for SASEC ROADS IMPROVEMENT PROJECT.

B. Background

2. Nepal is a landlocked country with more than 70% mountainous terrain. Land transport plays a major role in Nepal's economic and social development. Nepal has a very low density of roads, about 30 km per 100 sq km of land area or 0.9 km per 1,000 people. Nepal urgently requires expansion and improvement of the road sub-sector, which accounts for almost 90% of the country's passenger and freight transport. The Government of Nepal (the government) has given one of the highest priorities in road transport development strategy.

3. The government has received financial assistance from Asian Development Bank (ADB), for financing the SASEC Road Improvement Project (the project). Under the project, following road sections have been selected to be improved/upgraded as shown in Table 1 below, from the existing two-lane configuration to four-lane configuration.

Table 1: List of Project Roads

No.	Name	Length (Km)	Supervision Services requirement
Package 1	East-West Highway Narayanghat-Butwal Road, Section-I	65.0	Construction + DNP + PBM
Package 2	East-West Highway Narayanghat-Butwal Road, Section-II	50.0	Construction + DNP + PBM
Package 3	Bhairahawa-Lumbini-Taulihara Road	45.0	Construction + DNP

DNP = defect notification period, PBM = performance-based maintenance.

4. In accordance with ADB guidelines, the government intends to apply a portion of the proceeds of the financial assistance to engage a firm of international consultants (the Consultant) to provide engineering supervision for construction and maintenance work of the project roads under the performance-based maintenance contract which is built in with the works contract.

5. The Ministry of Physical Infrastructure and Transport (MOPIT), Government of Nepal, is the executing agency and the Department of Roads (DOR) is the implementing agency (the Employer/Client) for the project.

6. This consulting service will broadly include project management, supervision and monitoring, quality assurance, contract management and furnishing engineering decisions, verification of quantity, recording of measurements and certification of measurement and bills of the Contractor during the construction and maintenance periods. The consulting service shall also include implementation and monitoring of social and environmental safeguard activities and supporting/assisting the client in obtaining the necessary clearances on a timely basis. The Consultant shall need to administer the project implementation to ensure successful and timely

completion of civil works packages. The consultant shall assist the client and the contractor to incorporate the latest techniques and technological developments, especially on climate-resilient designs and road safety standard into the project roads.

7. The Works will include the following, as required, largely on existing alignments:
 - (i) Sub-base, base and bituminous pavement;
 - (ii) Widening and paving of shoulders;
 - (iii) Widening and stabilizing of embankments;
 - (iv) Improvements to geometrics and improvements to or replacement of cross drainage structures;
 - (v) replacement of minor bridges and construction major bridges;
 - (vi) Realignments of roads as per requirements;
 - (vii) Traffic safety features including traffic control during construction;
 - (viii) Road signs and markings;
 - (ix) Environmental protection measures;
 - (x) Social and resettlement measures;
 - (xi) GESI, HIV/AIDS and Human Trafficking Awareness measures;
 - (xii) Slope stability including construction of Retaining Walls and Breast Walls; and
 - (xiii) Ground stabilization/improvements measures.

8. The Works contract documents shall be based on FIDIC General Conditions of Contract, MDB edition 2010, as modified by the Particular Conditions of Contract.

9. The Project Director will be the representative of the Client for the project. The project implementation unit (PIU) for each civil works package shall be established and shall represent the Project Director for proper project management/administration of each package.

10. The Client has prepared detailed project reports (DPRs) for each contract package. As such, engineering designs, drawings and relevant data necessary for the proper and timely supervision of the construction and maintenance works are available. The consulting firm, if desired, may peruse the DPR before submission of their proposal. A copy of DPRs and the Contracts for the civil works packages will be provided to CSC after signing the contract.

11. The following terms of reference broadly describe the Consultant's scope of services, team composition, qualification requirements of its personnel, and the tentative implementation schedule of the Project.

C. Objective

12. The objective of this consulting service is to assist the DOR with the supervision of civil works construction and maintenance of SRIP roads and to ensure that high quality construction is achieved on schedule, within budget and that the work is carried out in full compliance with the approved engineering designs, technical specifications, terms and conditions of the contract documents, and sound engineering practices.

13. The objective of the CSC is to implement the project as follows:

- (i) To ensure high standards of quality assurance in the execution of the works within the stipulated time limit;

- (ii) To ensure full compliance with environmental and social safeguard requirements of ADB and to support the Employer to obtain necessary statutory clearances on a timely basis;
- (iii) To update environment and social safeguard planning documents when necessary;
- (iv) To implement the resettlement plan on social safeguard aspects;
- (v) Comprehensive supervision of project implementation activities carried out by the civil works contractor to ensure full compliance with the drawings, technical specifications and various stipulations contained in the contract documents, with high standards of quality assurance in supervision and in the execution of work;
- (vi) Efficient construction and maintenance supervision by personnel who are experienced in modern methods of construction and maintenance supervision and contract management;
- (vii) To review DPRs prior to implementation activities and propose revision/constructive suggestions, if needed;
- (viii) To monitor and advise on the preconstruction activities;
- (ix) To assist in taking remedial actions to avoid slippages, cost over runs and delays by the civil works contractor;
- (x) To ensure safety during construction and adherence to all environment management regulations prescribed under the contract; and
- (xi) Assist the client, if required, in bid evaluation of civil work contracts for project roads and recommend to DOR on all contractual matters.

D. The Main Features of Contract Management Framework

14. The civil construction contract will be based on the FIDIC MDB June 2010 version with appropriate amendments to incorporate local requirements.
15. Department of Roads (DOR)/Project Directorate (ADB) will act as "the Employer" for the civil works contract.
16. CSC will act as "the Engineer" under FIDIC for the civil work contracts and have full responsibility for administering these contracts except for issues for which the civil works contract requires the Engineer to obtain the Employer's prior approval.

E. Scope of Services

17. The works will be executed under the ADB Standard Bidding Document and FIDIC, MDB Harmonized edition 2010 for international competitive bidding (ICB) contracts. The Employer, DOR, will be represented by the Project Director, Project Directorate (ADB) based in Kathmandu. The consultant will act as the "Engineer" for the contracts and assist DOR to supervise the execution and implementation of all works in accordance with the conditions of contract. The Consultant shall nominate the Senior Highway Engineer as Chief Resident Engineer and who will act as the Team Leader/Engineer's Representative. Under the overall guidance of the Project Director (ADB), the Engineer shall work closely with the DOR Project Manager/Project In-Charge and his/her staff.
18. The construction period for the individual construction contracts will be 36 months and the defect liability period will be 12 months. The performance-based maintenance (PBM) period, if included in the contract, will be 48 months.

19. As the Engineer's representative, the Consultant's Team Leader/Senior Highway Engineer will administer the civil works contracts and ensure that the works are constructed in accordance with its respective provisions. The Consultant will have all of those powers which are defined as being the Engineer under civil works contract; however the consultant shall seek and obtain the Employer's specific approval prior to undertaking the following:

- (i) Issuing the order to commence the works;
- (ii) Issuing variation orders which have financial implications or significant in quantities, as defined in Civil Contract;
- (iii) Revising the time for completion of the works;
- (iv) Approving any subcontracting of any part of the works;
- (v) Fixing rates or prices; and
- (vi) Approval of proposals for provisional items.

20. The Consultant's responsibilities will include, but not necessarily be limited to, the following:

- (i) Design review of the detailed design (prepared by design consultant) provided to the consultant;
- (ii) Approve contractor's quality management plan, work program, method statements, material sources, manpower and equipment deployment etc.;
- (iii) Ensure at all times the Contractor works in strict compliance with the Contractor's quality management plan, work plan, and contract specification, including instruction issued as per contract and non-compliance notification;
- (iv) Provide all necessary setting out data to the civil works contractors and ensuring correctness of the setting out at field;
- (v) Prepare supervision manual for supervision staff and provide orientation to them within three months of commencement of the service;
- (vi) Carry out and recommend necessary adjustments in the design/drawing, if required, during construction due to site requirement/condition;
- (vii) Provide regular orientation to all supervising staff on drawing, specification, work methodology and safety aspects to ensure desired quality of works with highest level of safety;
- (viii) Inspect and supervise the day-to-day operations and activities of the contractor to ensure quality of workmanship and compliance with the contract;
- (ix) Review the Contractor's organizational arrangements, key personnel, equipment and work plan, materials and their sources;
- (x) Monitor progress of works against baseline work plan and advise on measures to be taken to improve progress and quality;
- (xi) Convene regular site meetings with the contractor to discuss issues and problems affecting the progress, keep minutes and brief the employer accordingly;
- (xii) In the event of variations to the works being required, prepare the necessary documents, negotiate these with contractor, determination of rates of works, advise the Employer on alternatives and recommend these to employer for approval;
- (xiii) Supervise the Contractors in all matters concerning safety and care of civil works including provision of necessary lights, guardrails, fencing and security;
- (xiv) Prepare and issue monthly and quarterly progress reports for the contracts and projects in the form acceptable to employer. These reports will include details of the physical and financial status of the contract/project, details of delays and

- consequences' if any, comments and solution on the quality of works in accordance with the contract;
- (xv) Approve and/or issue working drawings and instructions to the contractor, as required, in accordance with the contract specification and Contractor's quality management plan;
 - (xvi) Maintain daily diary of each contract package, with all detailed records at the site, and submit the daily diaries on a monthly basis;
 - (xvii) Measure the completed works and keep detailed records of the measurement;
 - (xviii) Supervise the tests in field and in laboratory, analyze and justify the results;
 - (xix) Undertake independent field and laboratory testing as may be required for verifying the results;
 - (xx) Prepare the non-conformity reports and propose the rectification work or solution;
 - (xxi) Maintain records, correspondence, detailed diaries, photographs and other documents concerning relevant events and activities;
 - (xxii) Approve interim certificates for progress payments and verify the quantities for such certificates and recommend for payment to the Employer;
 - (xxiii) Assess and make recommendations to the employer on the Contractor's claims for additional payment, extension of time and any other matters, based on the Engineer's interpretation of the contract as per Contractor's detailed submissions;
 - (xxiv) Assist the Employer's Representative with the maintenance of consolidated project accounts, and with preparation of financial statements and withdrawal applications for submission to the ADB;
 - (xxv) Certify completion of part or all of the works and issue the Taking Over Certificate;
 - (xxvi) Inspect the works at appropriate intervals during the maintenance period and defects liability period;
 - (xxvii) Advise the Employer's Representative on all matters relating to the execution of the works; and assess and recommend the Representative with processing the contractor's possible claims and disputes;
 - (xxviii) Ensure compliance with the environmental and social impact mitigation requirements of civil works contracts, including environmental management plan and land acquisition and resettlement action plan, monitoring the process of resettlement of people affected by the works, and provide information to employer on those processes in the monthly progress reports;
 - (xxix) At the completion of the works, undertake project monitoring and evaluation in the format acceptable to the Employer and the ADB and assist in preparing a consolidated project completion report;
 - (xxx) Check and certify as-built drawings for the works prepared by the contractors;
 - (xxxi) Carry out final inspections of the works and issue Defect Notification Certificates;
 - (xxxii) Approve the final accounts for contracts and recommend for payments;
 - (xxxiii) Provide the Employer with complete records, and inception, monthly and completion reports;
 - (xxxiv) Recommend and report to the employer regarding any appeal to Dispute Resolution Board, Adjudication, Arbitration or litigation related to the civil works contracts;
 - (xxxv) Provide any other specialized services as may be requested by employer;
 - (xxxvi) Provide knowledge transfer on latest technologies, procedure, methods etc, on road design & construction and current international practice on contract

- administration, contract management, disputes and its resolution etc.,. Conduct capacity development component;
- (xxxvii) Provide on-site training, if required, to MOPIT and DOR field officers/staff on quality assurance and contract administration;
- (xxxviii) Comply with the audit requirements of the government; and
- (xxxix) Carry out inspections during performance period and ensure that the indicators mentioned in Specifications for PBM are fully complied to.

i. Implementing and Monitoring Social/Environmental Aspects for SASEC Roads Improvement Project

21. The Consultant's responsibilities will include, but not necessarily be limited to, the following:

a. Gender, HIV/AIDS and Human Trafficking

- (i) Design, prepare and conduct HIV/AIDS and human trafficking awareness campaign, and other social mitigation plans at project-influenced areas as per feasibility and detailed design study for the project;
- (ii) Develop guidelines for mainstreaming gender in HIV/AIDS and anti-trafficking and child labor interventions; prepare a training plan on gender, HIV/AIDS and anti-trafficking, child labor for executing agencies, locally-based government employees and local bodies;
- (iii) Provide gender sensitization trainings to executing agencies and non-government organizations with a particular focus on the issues of the transport sector; develop gender-responsive indicators for tracking progress; participate in relevant theme groups for HIV/AIDS, and anti-trafficking;
- (iv) Conduct a workshop for executing agencies for feedback and finalization; determine appropriate IEC packages for transport operators, construction workers, female sex workers, tea stall operators, women, schoolchildren, mobile populations, etc. and ensure timely dissemination; reproduction; undertake HIV/AIDS orientation for project staff; identify risk and vulnerability factors by age and sex, and implement HIV/AIDS, and anti-trafficking and child labor interventions that address gender concerns;
- (v) Monitor collection of sex-disaggregated data relevant to the project;
- (vi) Assist the PMU in refining, implementing and monitoring GESI Action Plan; and
- (vii) Submit quarterly review reports to Project Directorate and determine whether the goals/indicators of the HIV/AIDS project monitoring framework have been achieved.

b. Land Acquisition and Resettlement

22. The Consultant will assist the Department of roads (DOR) in implementing resettlement plans (RPs) and other social mitigation plans of project roads. The Consultant will:

- (i) Assist the DOR and Chief District Officer (CDO) for land acquisition;
- (ii) Conduct detailed measurement survey (DMS), verify the RP, prepare the final land and structures acquisition, income restoration and resettlement components and update the RP whenever necessary;
- (iii) Develop resettlement and rehabilitation (R&R) information campaigns and community participation;

- (iv) Assist the project affected persons (PAPs), especially indigenous people, vulnerable groups, in resettlement and rehabilitation, including redressing grievances, and coordination with local authorities and other relevant institutions;
 - (v) Calculate detailed costs of all land acquisition, income restoration and resettlement components;
 - (vi) Update the database of PAPs and their entitlements for implementation and monitoring purposes; and
 - (vii) Monitor and evaluate progress and achievement of resettlement objectives.
23. The administrative responsibilities of the Consultant will include:
- (i) Working in coordination with the Resettlement Officer (RO), Project Manager and CDO;
 - (ii) The Consultant shall help to promote good working relationships between the PAPs, the Project Manager, particularly the RO. This will be achieved through regular meetings with both the RO and the PAPs. Meetings with the RO will be held at least fortnightly, and meetings with the PAPs will be held monthly, during the entire duration of the assignment. All meetings and decisions taken shall be documented by the consultant;
 - (iii) Preparing monthly action plans with targets in consultation with the RO;
 - (iv) Assisting the RO in carrying out the implementation of the RPs;
 - (v) Updating the database of PAPs and their entitlements;
 - (vi) In consultation with the PAPs, preparing micro-level plans indicating the categories of entitlement, alternative livelihood options, and relevant institutions for obtaining additional training and support. Women's perceptions are important to be incorporated in the development of these plans; and
 - (vii) Reporting to the RO on a monthly and quarterly basis. The report should include physical and financial progress, both in quantitative and qualitative terms. The report should prominently feature the problems and issues addressed and tackled with the PAPs and the solutions found. The report should have a separate chapter on women's issues, their problems and what has been done (within the framework of the RP) to ensure their participation in decision-making as well as the options made available to them to access economic opportunities, marketing and credit. The report should clearly indicate the number of field visits made by the Consultant staff and the outcome of consultations with people.
24. Identification of PAPs and verification of database from RPs:
- (i) The Consultant shall establish rapport with PAPs, consult with and provide information to them about the respective entitlements as proposed under the RPs, and assist employer in distributing identity cards to the eligible PAPs. The identity card should include a photograph of the PAP, the extent of loss suffered due to the project, and the choice of the PAP with regard to the mode of compensation and assistance.
 - (ii) During the identification and verification of the eligible PAPs from RPs, the Consultant shall ensure that each of the PAPs are contacted and consulted either in groups or individually. The Consultant shall ensure consultation with women from the PAP families especially from women headed households.
 - (iii) Participatory methods should be adopted in assessing the needs of the PAPs, especially with regard to the vulnerable groups of PAPs. The methods of contact

may include village level meetings, gender participation through group's interactions, and individual meetings and interactions.

- (iv) The Consultant shall verify the information already contained in the RPs and make suitable changes if required. Verification shall include actual measurement of the extent of total property loss/damage, and valuation of the loss/damage/affect along with the RO. The Consultant shall display the list of eligible PAPs in prominent public places like villages, local administrative offices, schools, and the District Headquarters.

25. Counseling the entitled persons:

- (i) The Consultant shall explain to the PAPs the provisions of the policy and the entitlements under the RP. This shall include communication to the roadside squatters and encroachers about the need for their removal, the timeframe for their removal and their entitlements.
- (ii) The Consultant shall disseminate information to the PAPs on the possible consequences of the Project on the communities' livelihood systems and the alternatives available to them.

26. For disbursing the Resettlement Assistance:

- (i) The Consultant shall assist the PAPs in ensuring a smooth transition (during the part or full relocation of the PAPs), helping the PAPs to take salvaged materials and shift. In close consultation with the PAPs, the Consultant shall inform the RO about the shifting dates agreed with the PAPs in writing and the arrangements desired by the PAPs with respect to their entitlements.
- (ii) The Consultant shall assist the PAPs in opening bank accounts explaining the implications, the rules and the obligations of a joint account and how s/he can access the resources s/he is entitled to.
- (iii) The Consultant shall ensure proper utilization of the R&R budget available for the package.
- (iv) The Consultant shall ensure that economic investment options be available to PAPs to restore their losses of land and other productive assets. The Consultant shall advise the Project Manager to disburse the entitlements to the eligible persons/families in a manner that is transparent, and shall report to the Project Manager on the level of transparency achieved in the project.

27. Accompanying and representing the PAPs at the Grievance Committee Meetings:

- (i) The Consultant shall nominate a suitable staff member to be a member of the Grievance Redress Committees (GRCs) for the respective contract packages.
- (ii) The Consultant shall help the PAPs in filling the grievance application and also in clearing their doubts about the required procedures.
- (iii) The Consultant shall record the grievance and bring it to the notice of the GRCs within seven days of receipt of the grievance from the PAPs. It shall submit a draft resolution with respect to the particular grievance of the PAP, suggesting multiple solutions, if possible, and deliberate on the same in the GRC meeting through the Consultant representative in the GRC.
- (iv) The Consultant shall accompany the PAPs to the GRC meeting on the decided date, help the AP to express his/her grievance in a formal manner if requested by the GRC and again inform the PAPs of the decisions taken by the GRC within 3

days of receiving a decision from the GRC. (The time frame for the GRC to take a decision is 15 days).

28. Assisting eligible PAPs to take advantage of the existing Government Housing Employment Schemes, if available.

- (i) Establish linkages with the district administration to ensure that the PAPs are benefited from the schemes available and those they are entitled to. The focus for this component of the Consultant work shall be the vulnerable PAPs for their income restoration. The Consultant shall maintain a detailed record of such facilitation.
- (ii) Identify, design and conduct training programs on alternative methods of livelihood restoration using local skills and resources.

29. Inter-Agency Linkages for Income Restoration and other R&R Services

- (i) The Consultant shall be responsible for establishing linkages with financial institutions to assist the PAPs to access credit, if possible.
- (ii) Training institutes to impart skills and management training for enterprise creation and development.
- (iii) Coordinate with the DOR Project office to facilitate consultation on rehabilitation of borrow areas.

30. Recommending Improvement of R&R Services

- (i) Recommend and suggest techniques and methods for improvement of services extended by the concerned government departments and other agencies and committees in disbursement/extension of R&R services in the Project.
- (ii) Discuss, with the Project Manager on contingency management and other improvement of R&R services, within the Project period.

c. Environmental Management

- (i) The consultant will have a team of one Environmental Expert and one Wildlife Expert.
- (ii) The consultant will appoint site level environmental focal persons for on-site supervision and monitoring on a daily basis.
- (iii) The consultant will approve all sub-plans such as construction camp layout plan, waste management plan, borrow area management plan, traffic management plan, tree plantation plan and others prepared by the contractor.
- (iv) The Wildlife Expert will conduct a wildlife study for the Narayanghat–Butwal road during the pre-construction stage to reconfirm the suitability of the location, design and numbers of underpasses as given in the EIA report. The study will involve suitable methods such as field surveys, camera trapping, habitat mapping, GIS based analysis etc. to re-establish the biodiversity baseline conditions (locations and number of wildlife crossings, wildlife species crossing the road and their seasonal behavior, number of wildlife–vehicle collisions etc.). If required he/she will recommend construction of more underpasses in addition to the 5 proposed in the EIA report.
- (v) For the Naryanghat–Butwal road the Wildlife Expert will elaborate and prepare the final biodiversity conservation plan based on initial activities provided in the

- EIA report. This will be done in close consultation with CNP and other local forestry officials and Forestry User Groups.
- (vi) For the Narayanghat–Butwal road the Wildlife Expert will liaise with Chitwan National Park and other local Forestry officials for implementing the biodiversity conservation plan
 - (vii) While the compensatory afforestation program will be implemented by the local Forestry Department the Wildlife Expert will coordinate closely with them to ensure that the program also includes habitat enhancement and creation of funnel forests at the wildlife crossing points for the Narayanghat–Butwal road.
 - (viii) The Environmental and Wildlife Expert will review and verify monthly environmental reports prepared by the contractor.
 - (ix) Based on site inspections, monthly environmental reports from the contractor and progress of the biodiversity conservation plan and compensatory afforestation program the Wildlife and Environmental Expert will prepare consolidated semi-annual Environmental Monitoring Reports during construction for submission to the DOR PIU for their endorsement and further forwarding to ADB for disclosure on the ADB website.
 - (x) The Environmental and Wildlife experts will conduct capacity building activities on implementation of environment safeguards through training workshops and on-site training for relevant staff of DOR and the contractor as necessary
 - (xi) The Consultant will organize semi-annual stakeholder consultation workshops to present the findings of the semi-annual environmental monitoring report and invite relevant stakeholders such as Department of National Parks and Wildlife Conservation (DNPWC), CNP, World Wildlife Fund (WWF) Nepal and others as mentioned in the EIA report.
 - (xii) In case of unexpected environmental impacts during project implementation period, the consultant will prepare remedial actions to handle such impacts.

ii. Project Performance Monitoring System

31. The Consultant will develop and implement PPMS during the entire period of assignment. The Consultant will collect and analyze a set of indicators for evaluating project performance against the set project impact, outcome and outputs. A systematic baseline survey will be conducted at the beginning of the project implementation (within four months from commencement of the service) and follow-up surveys at project completion, and one year after completion. Data collected during and after implementation will be compared with the baseline data and the target values shall be established by the Employer and ADB before the start. The main indicators to be monitored include (i) economic development and poverty indicators at each of the project districts, (ii) transport costs and time for specific types of vehicles and trips, (iii) transport services and charges, (iv) accident rates, (v) air quality, (vi) per capita income in the project districts, (vii) access to social services, and (viii) jobs created during the construction and maintenance. Where relevant, indicators will be differentiated by gender and minority groups.

32. The data collection method shall consist of:

- (i) reviewing secondary data from respective district and village profiles;
- (ii) conducting household socioeconomic sample surveys; and
- (iii) developing participatory rural appraisal methods among the communities affected by the road construction/upgrading activities.

iii. Road Safety Improvement for SASEC Roads Improvement project

33. The Consultant's responsibilities will include, but not necessarily be limited to, the following:

a. Public Awareness Campaign

- (i) Review the road safety provisions in civil works contract and modify where necessary;
- (ii) Supervise/oversee/assist the supervision team and contractor in implementation of safety provisions;
- (iii) Review and design public awareness campaign on road safety; and
- (iv) Assist DOR in conducting the awareness program.
- (v) Develop plan and manual to conduct awareness in co-ordination with the Employer;
- (vi) Arrange workshop in DOR on awareness Program
- (vii) Comply with DOR's Traffic Safety Manuals during construction supervision

iv. Capacity Development

34. The consulting services shall include organizing in-house and overseas training for capacity development of DOR personnel in different disciplines. Additionally, the consultant shall organize, manage and provide overseas training on advanced contract management, dispute resolution, FIDIC etc., to DOR personnel (at least 30 persons) including all applicable logistics. The consultant shall propose the capacity development component in their technical proposal and include the cost in their financial proposal.

F. Team Composition and Qualification Requirements for the Key Experts

35. The consulting services will be carried out by an international consulting firm. Firms may associate with national consultants. The firms should have extensive experience in the supervision and maintenance of road and bridge works and will nominate personnel who have similar experience. The consultant should have experience in the fields of transport planning, highway, bridge, survey, slope protection, bioengineering, hydrology, material study, economic evaluation, contract management, construction supervision, resettlement, environmental management and social development.

36. It is anticipated that the Consultant's organization will be as set out in Table 2, although in preparing their proposals the consultants may propose alternative arrangements which in their opinion, will provide supervision services of an equivalent quality.

37. Minimum 154 person-months of international key experts in association with about 501 person-months of national key experts and 1,290 person-months of technical support staff will be required to carry out construction supervision and maintenance services. The consulting services are expected to be completed over a period of 100 months. The person-months required for the assignment is enumerated under Table 2. The qualification requirements for evaluation of key experts is set out in Table 4.

Table 2: Staff Input**INTERNATIONAL KEY EXPERTS**

SI. No.	Position Title	No. Of Person	P.M. Requirement During			Total P.M.
			Const. Phase	D.L.P.	P.B.M Period	
KI 1	Team Leader/ Chief Resident Engineer	1	42	6	-	48
KI 2	Sr. Material Engineer/ Pavement Engineer (Chief Quality Control Engineer)	1	40	2	-	42
KI 3	Sr. Contract Specialist	1	24	2	4	30
KI 4	Sr. Bridge/ Structure Engineer	1	18	-	-	18
KI 5	PBM Expert	1	-	-	16	16
	Total					154

NATIONAL KEY EXPERTS

SI. No.	Position Title	No. Of Person	P.M. Requirement During			Total P.M.
			Const. Phase	D.L.P.	P.B.M Period	
KN 1	Dy.Team Leader/ Highway Engineer	1	42	12	48	102
KN 2	Resident Engineer	2+1	42&30	1x12	-	126
KN 3	Material Engineer	2+1	39&27	1x6	-	111
KN 4	Bridge/ Structure Engineer	1	36	-	-	36
KN 5	Road Safety Expert	1	12	2	4	18
KN 6	Transport Economist	1	6	2	4	12
KN 7	Environmental/ Bio Engineering Expert	1	21	3	-	24
KN 8	Wildlife Expert	1	21	3	-	24
KN 9	Social Resettlement Expert	1	24	-	-	24
KN10	Gender (HIV/AIDS, Livelihood) Expert	1	24			24
	Total					501

NATIONAL NON-KEY EXPERTS

SI. No.	Position Title	No. Of Person	P.M. Requirement During			Total P.M.
			Const. Phase	D.L.P.	P.B.M Period	
NKN 1	Assistant Resident Engineer	4+2	42&30	-	1x48	276
NKN 2	Social Development Officer	1	24	-	-	24
NKN3	Human Trafficking awareness officer	1	12	-	-	12
NKN 4	Office Engineer/CAD Engineer	1	36	-	-	36
NKN 5	Senior Inspector of Works (SIOW)	8+4	42&30	3x12	1x48	540
NKN 6	Laboratory Technician	2+1	42&30	-	-	114
NKN 7	Social Mobiliser (HIV/AIDS, Human Trafficking & Gender)	6	30	-	-	180
NKN 8	Surveyor (Social)	3	36	-	-	108
	Total					1,290

Table 3: Position Based Tasks/Responsibilities

S. No.	Position	Task Assignment
1.	Team Leader/Chief Resident Engineer	<p>Shall be over-all responsible for the project inter-alia including but not limited to:</p> <ul style="list-style-type: none"> • Mobilization • Approval of Quality Assurance Plan • Review of data and documents • Reconnaissance • Design Review • Site Inspection • Start-up Meeting/Issue of Commencement Report • Preparation of Construction and Supervision Manual • Setting out/cheek setting out • Construction Management • Supervision of all construction work and Quality assurance • Visit each contract package periodically to monitor progress and compliance with ADB Safeguard requirements. • Review/Approval of Contractor's Work Program • Review/Approval of Contractor's Construction Methodologies • Review/Approval of Contractor's Key Personnel • Evolve and Establish Quality Assurance System • Verification/Certification of Completed Works • Supervision/verification of acceptance tests • Certification of Interim Payment Certificates and Final Payment Certificated • Verification of As-built drawings • Examination of measurements • Progress Monitoring • Maintenance works during construction period • Assist DoR's PM/PICs in all aspect of project implementation • Assists in Adjudication/Dispute/Arbitration • Defect Correction • Documentation/submission of reports • Assist PD(ADB) in preparing defense documents for Adjudication, Arbitration and Litigation whenever necessary • Assist PD(ADB) in Adjudication, Arbitration and Litigation Hearing whenever necessary • Mentoring National Key and Non-Key staff in project implementation and administration • S/He shall be responsible for guiding/supervising the work of key personnel & support staff.
2.	Sr. Material Engineer/ Pavement Engineer (Chief Quality Control Engineer)	<p>Shall be responsible for overall guiding/supervising the work of Material Engineers and Lab Technicians including but not limited to:</p> <ul style="list-style-type: none"> • Assist Team Leader/Chief Resident Engineer • Quality control of the Project • Collection & Review of data • Review/Preparation of Quality Assurance Plan • Training and technology transfer to counterpart staff • Material investigations • Site inspection • Inspection of Sources of Material

S. No.	Position	Task Assignment
		<ul style="list-style-type: none"> • Production of construction materials • Setting up of laboratory • Maintain Test Records • Supervision/verification of acceptance tests • Quality Control of Works • Material/Machine management • Review of contractor's Material and Equipment schedule • Mentoring National Key and Non-Key staff in Quality management, quality planning, quality assurance and its implementation.
3.	Sr. Contracts Specialist	<p>Shall be responsible for but not limited to:</p> <ul style="list-style-type: none"> • Assist the Employer and Team Leader in Contract administration and management of the civil works contract. • Assist in interpretation of the Contract/Agreement Clauses and their implementation especially in instances of disputes. • Interpretation of the Technical Specifications and Contract Documents • Review and ensure conformity of contractor's securities in approved formats. • Ensure requisite insurances furnished by the Contractor being Contract compliant • Assist in finalization of bidding documents, if not already done • Assist PIU in evaluating bids for contracts for civil works, if required • Assist PIU in dispute resolution activities, if necessary, during the pendency of the contract • Measure quantities of work, record measurements and verify BoQ items / Work quantities executed in the Contractor's monthly statement • Verify and examine interim payment certificates received from Contractors. • Track and record progress and compensation events • Assessment & Preparation of Variation documents • Assessment and Preparation of Extension of Time documents • Assist in making engineer's determination • Assist in preparation of Employer's claim • Assists with contract termination procedures • Performs post-award functions to include modifying contracts, monitoring contract performance, and closing out contracts etc. • Maintain a permanent record of all measurement for the work quantities
4.	Sr. Bridge / Structure Engineer	<p>Shall be responsible for overall guiding/supervising the Construction work of Bridges under the Project including but not limited to:</p> <ul style="list-style-type: none"> • Assist Team Leader in supervision of Bridge construction • Review & Approval of Quality Assurance Plan for bridges. • Review of Design, data and documents of Bridge • Review & Approval of construction methodology • Preparation of work program • Review of Detailed Engineering Design & Contract Documents • Review of construction drawings • Training and technology transfer to counterpart staff • Emergency activities • Setting out/check setting out

S. No.	Position	Task Assignment
		<ul style="list-style-type: none"> • Construction Management • Supervision of structural work and Quality assurance • Review of Contractor's construction methodology • Review of contractor's schedule • Site recording, etc. • Verification/Certification of Competed Works • Supervision/verification of acceptance tests
5.	Performance Based Maintenance (PBM) Expert	<p>Shall be responsible for overall guiding/supervising the Maintenance work under the Project including but not limited to:</p> <ul style="list-style-type: none"> • Act as Team Leader during PBM Phase • Supervision of all works during PBM phase • Visit each contract package periodically to monitor progress and compliance with ADB Safeguard requirements during PBM Phase. • Review/Approval of Contractor's Work Program during PBM Phase • Monitor compliance with Contract Specification by the contractor during PBM Phase • Review/Approval of Contractor's Maintenance Methodologies during PBM Phase • Review/Approval of Contractor's Key Personnel during PBM Phase • Verification/Certification of Competed Works during PBM Phase • Certification of Interim Payment Certificates and Final Payment Certificated during PBM Phase • Knowledge transfer to DOR and Mentoring National Key and Non-Key staff in project implementation and administration during PBM Phase • Reviewing and finalizing the Maintenance Manual as per the provisions of the PBM contract. • Preparation of templates for monitoring maintenance work. • Suggesting modification for maintenance requirement, if needed. • Incorporating provisions, if needed in the maintenance manual.
6.	Dy. Team Leader/ Highway Engineer	<p>Shall be responsible for but not limited to following activities:</p> <ul style="list-style-type: none"> • Assist Team Leader in all tasks of the project during construction, DLP period and PBM Maintenance phase • Coordinate and liaise with local agencies as required
7.	Resident Engineer	<p>Shall be responsible for but not limited to:</p> <ul style="list-style-type: none"> • Assist Team Leader/Chief Resident Engineer in Contract Administration • Assist Chief Quality Control Engineer in Quality Management • Surveying • Setting out • Construction Management • Supervision of works & Quality Assurance • Site Recording • Special tests of materials, etc. • Verification of completed works • Review of contractor's work program • Safety Measures • Attending of Measurements • Construction Supervision during extended working hours

S. No.	Position	Task Assignment
		<ul style="list-style-type: none"> • Analyze, Evaluation and Monitoring Progress of works • Inspect Contractor's Establishment • Maintenance of Site Records • Approval of Measurement at site • Rectification of defect works • Review of contractor's schedule • Check contractor's invoices, claims, etc. • Issue Interim Payment Certificate • Settlement of final bill and accounts • Updating of cost estimate • Assist the Employer in replying to audit observations • Cost revision • Documentation & submission of certificates • Assist Procurement/Contract Management Specialist in arbitration/litigation cases • Assist DoR's PM/PICs in all aspect of project implementation • Assist project in Resettlement, Livelihood, Gender, Environment safeguard implementation • Supervise maintenance on regular basis during construction • Checking and monitoring condition and • Inspect completed works during defects liability period
8.	Pavement/Material Engineer	<p>Shall be responsible for but not limited to:</p> <ul style="list-style-type: none"> • Assist Chief Quality Control Engineer in Quality Management • Collection & Review of data • Preparation of Quality Assurance Plan • Minor design modifications • Training and technology transfer to counterpart staff • Material investigations • Site inspection • Inspection of Sources of Material • Production of construction materials • Setting up of laboratory • Maintain Test Records • Supervision/verification of acceptance tests • Construction Management • Quality Control of Works • Review of construction drawings • Preparation of Right-of-Way Report • Conduct traffic survey • Utility Relocation Plan • Construction Management • Preparation of work program • Material/Machine management • Review of contractor's schedule • Coordinate with Safeguard Personnel
9.	Bridge/ Structural	Shall be responsible for but not limited to:

S. No.	Position	Task Assignment
	Engineer	<ul style="list-style-type: none"> • Mobilization • Assist International Bridge Construction Engineer • Preparation of work program • Review of Detailed Engineering Design & Contract Documents • Review of construction drawings • Training and technology transfer to counterpart staff • Emergency activities • Setting out/check setting out • Construction Management • Supervision of structural work and Quality assurance • Review of Contractor's construction methodology • Review of contractor's schedule • Site recording, etc.
10.	Road Safety Specialist	<p>Shall be responsible for but not limited to:</p> <ul style="list-style-type: none"> • Conduct Road Safety Audit of highway design • Conduct pre audit meetings with stakeholders • Conduct Road Safety Awareness Campaign • Training and technology transfer to counterpart staff • Conduct road safety audit during construction • Conducting post construction Road Safety Audit • Coordinate with REs, MEs, AREs for project implementation • Identifying causes of accidents occurred over the project implementation period and develop road safety countermeasures reducing risk of reoccurring
11.	Transport Economist	<p>Shall be responsible for but not limited to:</p> <ul style="list-style-type: none"> • Conduct baseline survey at the beginning. • Data collection during and after the implementation • Development and monitoring the indicators of economic development • Preparing and implementing PPMS and reporting
12.	Environmental/ Bio Engineering Specialist	<p>Shall be responsible for but not limited to:</p> <ul style="list-style-type: none"> • Assist Team Leader/Chief Resident Engineer & REs in Safeguard Implementation • Assist PD, DoR's PM/PIC and Engineer in environment matters • Updating of Environmental Management Plan • Periodical Review of Environmental Management Plan during construction • Ensure compliance with EIA/IEE and Environmental Management Plan • Preparation of remedial actions to handle unexpected environmental impacts • Reporting and preparing semi-annual report on implementation of environment safeguards with inputs from the Wildlife Expert • Design of Bio Engineering Works • Supervision of Environmental Protection and Bio Engineering Works • Monitor the compensatory afforestation being carried out by the relevant Forestry Department to ensure that the mandatory 1:25 compensation is carried out during project implementation • Together with the Wildlife Expert organize semi-annual stakeholder

S. No.	Position	Task Assignment
		<p>consultation workshops to discuss the progress of environment safeguards implementation under the project. This consultation workshop will serve as an external monitoring mechanism for environment safeguards under the project.</p> <ul style="list-style-type: none"> • Coordinate with REs, MEs, AREs for project implementation • Training and technology transfer
13.	Wildlife Expert	<p>Shall be responsible for but not limited to:</p> <ul style="list-style-type: none"> • Review the EIA report for the Narayanghat–Butwal road • Liaise with the Park warden, CNP focal person for the project, local forestry officials, relevant Buffer Zone community Forestry Management Groups and monitor the implementation of biodiversity conservation activities as given in the EIA report for the Narayanghat–Butwal road. • Review the wildlife related mitigation and enhancement measures recommended in the EIA, IEE and EMP and provide updates and revisions and further site specific recommendations as necessary • Where relevant provide additional recommendations for enhancement measures to be undertaken during the project implementation. • Organize semi-annual stakeholder consultations workshops in the project site and/or Kathmandu to discuss the progress of biodiversity conservation activities under the project. Relevant stakeholders such as Department of National Parks and Wildlife Conservation, WWF Nepal and NTNC maybe invited. This stakeholder consultation workshop will serve as an external monitoring mechanism on implementation of environment safeguards under the project. • Prepare semi-annual monitoring reports and submit to the Environmental/Bioengineering Specialist for compilation into one consolidated semi-annual environmental monitoring report • Assist TL, RE etc., in EIA/EMP implementation
14.	Resettlement Specialist	<p>Shall be responsible for but not limited to:</p> <ul style="list-style-type: none"> • Assist Team Leader/Chief Resident Engineer & REs in Safeguard Implementation • Assist PD, DoR's PM/PIC and Engineer in Social matters • Updating/verification of original PAPs and RPs. • Development of resettlement and rehabilitation (R&R) • Assessment of compensation • Access project affected areas. • Explore high potential income generation activities. • Provide trainings to PAPs for improving livelihood.
15.	Gender Expert (HIV/AIDS & Livelihood)	<p>Shall be responsible for but not limited to:</p> <ul style="list-style-type: none"> • Assist Team Leader/Chief Resident Engineer & REs in GESI, Livelihood and HIV/AIDS & Human Trafficking Awareness Implementation • Assist PD, DoR's PM/PIC and Engineer in Such matters • Design, prepare and conduct HIV/AIDS and human trafficking awareness campaign • Prepare mitigation plans at Project influence areas • Prepare, implementation of GESI Action Plan • Preparing and reporting project monitoring framework. • Coordinate with REs, MEs, AREs for project implementation • Training and technology transfer

S. No.	Position	Task Assignment
16.	Assistant Resident Engineer	Shall be responsible for but not limited to: <ul style="list-style-type: none"> • Assist TL/CRE, Chief Quality Control Engineer, Resident Engineer and Material Engineers • Surveying • Assist project in Resettlement, Livelihood, Gender, Environment safeguard implementation • Setting out • Construction Management • Supervision of works & Quality Assurance • Site Recording • Special tests of materials, etc. • Verification of completed works • Review of contractor's work program • Safety Measures • Attending of Measurements • Construction Supervision during extended working hours • Analyze, Evaluation and Monitoring Progress of Work • Inspect Contractor's Establishment • Maintenance of Site Records • Inspect completed works during defects liability period • Rectification of defect works • Updating of cost estimate • Assist the Employer in replying to audit observations • Cost revision • Supervise maintenance on regular basis during construction • Supervise maintenance during defects liability period
17.	Office Engineer/CAD Engineer	Shall be responsible for but not limited to: <ul style="list-style-type: none"> • Assist TL/CRE and Chief Quality Control Engineer • Assist TL in Checking Design and Drawing • Prepare CAD Drawings • Assist TL in Checking IPCs • Assist TL/CRE and Chief Quality Control Engineer in Report Preparation • Coordinate with Site Staffs and Safeguard Staffs • Assistance in modifying drawings and preparing Good for Construction drawings.
18.	Social Development Officer	Shall be responsible for but not limited to: <ul style="list-style-type: none"> • Assist TL, Resident Engineer and ARE • Assist Social Resettlement Specialist for implementation of Resettlement Activities • Updating/verification of original PAPs and RPs. • Development of Resettlement and Rehabilitation (R&R) • Assessment of compensation • Explore high potential income generation activities. • Provide trainings to PAPs for improving livelihood. • Access project affected areas.
19.	Human Trafficking Awareness Officer	Shall be responsible for but not limited to: <ul style="list-style-type: none"> • Assist TL, Resident Engineer and ARE

S. No.	Position	Task Assignment
		<ul style="list-style-type: none"> • Assist Gender Specialist for implementation of GESI and Livelihoods Activities • Updating/verification of original PAPs and RPs. • Development of Awareness campaign • Access project affected areas.
20.	Social Mobiliser (HIV/AIDS, Human Trafficking and Gender)	<p>Shall be responsible for but not limited to:</p> <ul style="list-style-type: none"> • Assist TL, Resident Engineer and ARE • Assist Gender Specialist, Human Trafficking Awareness officer and Social Development Officer • Access project affected areas. • Implement awareness campaign. • Provide trainings to PAPs for improving livelihood. • Assist Social Development Officer for implementation of GESI, HIV/AIDS, Human Trafficking Awareness Activities • Conduct HIV/AIDS and human trafficking awareness campaign • Implementation of GESI Action Plan • Prepare mitigation plans at Project influence areas • Preparing and reporting project monitoring framework.
21.	Senior Inspector of Work (SIOW)	<p>Shall be responsible for but not limited to:</p> <ul style="list-style-type: none"> • Assist REs, MEs, AREs for project implementation • Surveying and setting out • Assist project in Resettlement, Livelihood, Gender, Environment safeguard implementation • Inspection of various items of works and ensure the work done as per laid down quality standards. • Measurement of works at site • Supervise maintenance on regular basis during maintenance period. • Supervise maintenance during defects liability period
22.	Lab Technicians	<p>Shall be responsible for but not limited to:</p> <ul style="list-style-type: none"> • Assist TL, RE, ME, ARE & SIOW for Quality Management • Various laboratory testing and analysis of various construction materials and contents in due course of construction and maintenance period.
23.	Surveyor	<p>Shall be responsible for:</p> <ul style="list-style-type: none"> • Assist Social Safeguard Specialist, Resettlement Officer, Livelihood Officer and Gender officer • Surveying and verification for Social and Environment Safeguard implementation • Cadastral survey and mapping

Table 4: Qualification Requirement for Key Experts**INTERNATIONAL KEY EXPERTS****1. Team Leader** (Experience of the last 20 years will only be considered)

(i) Educational Qualification	
<ul style="list-style-type: none"> • Preferred • Basic 	<ul style="list-style-type: none"> • Masters in Transport Engineering/Highway Engineering/Construction Management or related field. • Graduate in Civil Engineering
(ii) Experience	
<ul style="list-style-type: none"> • Total Experience • Experience in Related Field in the last 15 years • Experience in the Proposed Field of Expertise in the last 10 years 	<ul style="list-style-type: none"> • 20 years • 15 years in Road Works • 10 years experience as a Team Leader and minimum experience with 2 Road projects (of service duration of 2 years or more each) construction supervision of size approximately \$120 million each. Experience in FIDIC contract is desirable • Experience in wide geographic regions.
(iii) Language	Communicate fluently in English Language

2. Chief Resident Engineer (Experience of the last 20 years will only be considered)

(i) Educational Qualification	
<ul style="list-style-type: none"> • Preferred • Basic 	<ul style="list-style-type: none"> • Masters in Transport Engineering/Highway Engineering/Construction Management or related field. • Graduate in Civil Engineering
(ii) Experience	
<ul style="list-style-type: none"> • Total Experience • Experience in Related Field in the last 15 years • Experience in the Proposed Field of Expertise in the last 10 years 	<ul style="list-style-type: none"> • 20 years • 15 years in Road Works • 10 years of experience as Road Construction Expert/ Chief Resident Engineer in construction supervision of road projects with 2 Road projects (of service duration of 2 years or more each) construction supervision of size approximately \$120 million of civil construction each. Experience in FIDIC contract is desirable. • Experience in wide geographic regions.
(iii) Language	Communicate fluently in English Language

3. Sr. Material/Pavement Engineer (Chief Quality Control Engineer) (Experience of the last 20 years will only be considered)

(i) Educational Qualification	
<ul style="list-style-type: none"> • Preferred • Basic 	<ul style="list-style-type: none"> • Masters in Highway Engineering/ Geotechnical Engineering/ Engineering Geology or related field. • Graduate in Civil Engineering
(ii) Experience	
<ul style="list-style-type: none"> • Total Experience • Experience in Related Field • Experience in the Proposed Field of Expertise 	<ul style="list-style-type: none"> • 20 years • 15 years in Road Works • 10 years' experience as a Quality Control Engineer, or Geotechnical Engineer in construction supervision with experience in 2 Road projects (of service duration of 2 years or more each). • Experience in wide geographic regions.
(iii) Language	
Communicate fluently in English Language	

4. Sr. Contracts Specialist (Experience of the last 20 years will only be considered)

(i) Educational Qualification	
<ul style="list-style-type: none"> • Preferred • Basic 	<ul style="list-style-type: none"> • Masters in Construction Management or related field. • Graduate in Civil Engineering
(ii) Experience	
<ul style="list-style-type: none"> • Total Experience • Experience in Related Field • Experience in the Proposed Field of Expertise 	<ul style="list-style-type: none"> • 20 years • 15 years in Road Works • 10 years' experience as a Contract Specialist with experience in 2 ICB Road projects (of service duration of 2 years or more each). Experience in FIDIC contracts. • Experience in wide geographic regions.
(iii) Language	
Communicate fluently in English Language	

5. Sr. Bridge/Structure Engineer (Experience of the last 20 years will only be considered)

(i) Educational Qualification	
<ul style="list-style-type: none"> • Preferred • Basic 	<ul style="list-style-type: none"> • Masters in Bridge Engineering/ Structural Engineering or related field. • Graduate in Civil Engineering
(ii) Experience	
<ul style="list-style-type: none"> • Total Experience • Experience in Related Field • Experience in the Proposed Field of Expertise 	<ul style="list-style-type: none"> • 20 years • 15 years in Road Works • 10 years' experience as a Bridge Construction Engineer, or structural Engineer with experience in 2 Bridge projects (of service duration of 2 years or more each). • Experience in wide geographic regions.
(iii) Language	
Communicate fluently in English Language	

6. PBM Expert (Experience of the last 20 years will only be considered)

(i) Educational Qualification	
<ul style="list-style-type: none"> • Preferred • Basic 	<ul style="list-style-type: none"> • Masters in Transportation/ Highway Engineering or related field. • Graduate in Civil Engineering
(ii) Experience	
<ul style="list-style-type: none"> • Total Experience • Experience in Related Field • Experience in the Proposed Field of Expertise 	<ul style="list-style-type: none"> • 20 years • 15 years in Road Works • 10 years' experience as a Road Construction/ Maintenance Engineer, with experience in Performance Based Maintenance contract of 2 Highway projects (of service duration of 2 years or more each). Experience in FIDIC contract • Experience in wide geographic regions.
(iii) Language	
Communicate fluently in English Language	

NATIONAL KEY EXPERTS**7. Deputy Team Leader/Highway Engineer** (Experience of the last 15 years will only be considered)

(i) Educational Qualification	
<ul style="list-style-type: none"> • Preferred • Basic 	<ul style="list-style-type: none"> • Masters in Transport Engineering/Highway Engineering/ Bridge Engineering/ Construction Management or related field. • Graduate in Civil Engineering
(ii) Experience	
<ul style="list-style-type: none"> • Total Experience • Experience in Related Field • Experience in the Proposed Field of Expertise 	<ul style="list-style-type: none"> • 15 years • 10 years in Road Works • 10 years' experience as a Road Construction Expert/ Resident Engineer/Team Leader/Deputy Team Leader, with experience in 2 highway projects (of service duration of 2 years or more each). Experience in FIDIC Contract. • Experience in donor funded infrastructure projects.
(ii) Language	
Communicate fluently in English Language	

8. Resident Engineer (Experience of the last 10 years will only be considered)

(i) Educational Qualification	
<ul style="list-style-type: none"> • Preferred • Basic 	<ul style="list-style-type: none"> • Masters in Transport Engineering/Highway Engineering/ Bridge Engineering/ Construction Management • Graduation in Civil Engineering
(ii) Experience	
<ul style="list-style-type: none"> • Total Experience • Experience in Related 	<ul style="list-style-type: none"> • 10 years • 7 years in Road Works

<ul style="list-style-type: none"> Experience in the Proposed Field of Expertise 	<ul style="list-style-type: none"> 4 years' experience as a Resident Engineer or 8 Years as assistant resident engineer in Road Projects with experience in FIDIC contract. Experience in Donor funded infrastructure projects.
(iii) Language	Communicate fluently in English Language

9. Pavement/Material Engineer (Experience of the last 10 years will only be considered)

(i) Educational Qualification	
<ul style="list-style-type: none"> Preferred Basic 	<ul style="list-style-type: none"> Masters in Highway Engineering/ Geotechnical Engineering/ Engineering Geology or related field. Graduation in Civil Engineering
(ii) Experience	
<ul style="list-style-type: none"> Total Experience Experience in Related Field Experience in the Proposed Field of Expertise 	<ul style="list-style-type: none"> 10 years 7 years in Road Works 4 years' experience as a Pavement, Material, or Geotechnical Engineer with experience in Road projects or 8 years' experience as ARE. Experience in Donor funded infrastructure projects.
(iii) Language	Communicate fluently in English Language

10. Bridge/ Structural Engineer (Experience of the last 10 years will only be considered)

(i) Educational Qualification	
<ul style="list-style-type: none"> Preferred Basic 	<ul style="list-style-type: none"> Masters in Structural Engineering/ Bridge Engineering or related field. Graduate in Civil Engineering/Structural Engineering
(ii) Experience	
<ul style="list-style-type: none"> Total Experience Experience in Related Field Experience in the Proposed Field of Expertise 	<ul style="list-style-type: none"> 10 years 7 years in Road Works 4 years' experience as a Bridge/Structural Engineer Experience in Donor funded infrastructure projects.
(iii) Language	Communicate fluently in English Language

11. Road Safety Specialist(Experience of the last 10 years will only be considered)

(i) Educational Qualification	
<ul style="list-style-type: none"> Preferred Basic 	<ul style="list-style-type: none"> Masters in Transport Engineering/ Highway Engineering/ Traffic Engineering or related field. Graduate in Civil Engineering
(ii) Experience	

<ul style="list-style-type: none"> • Total Experience • Experience in Related Field • Experience in the Proposed Field of Expertise 	<ul style="list-style-type: none"> • 10 years • 7 years in Road Works • 4 years' experience in Road Projects as Road Safety Specialist • Experience in Donor funded infrastructure projects
(iii) Language	Communicate fluently in English Language

12. Transport Economist (Experience of the last 10 years will only be considered)

(i) Educational Qualification	
<ul style="list-style-type: none"> • Preferred • Basic 	<ul style="list-style-type: none"> • Masters in Transport Economics or related field • Graduate in Civil Engineering/ Economics/ Development Economics/ Transport economics
(ii) Experience	
<ul style="list-style-type: none"> • Total Experience • Experience in Related Field • Experience in the Proposed Field of Expertise 	<ul style="list-style-type: none"> • 10 years • 7 years in Road Works • 4 years' experience in Road Projects as Transport Economist • Experience in Donor funded infrastructure projects
(iii) Language	Communicate fluently in English Language

13. Bio-engineering/Environment Specialist (Experience of the last 10 years will only be considered)

(i) Educational Qualification	
<ul style="list-style-type: none"> • Preferred • Basic 	<ul style="list-style-type: none"> • Masters in Environmental related field • Graduate in Civil Engineering or Environment related field
(ii) Experience	
<ul style="list-style-type: none"> • Total Experience • Experience in Related Field • Experience in the Proposed Field of Expertise 	<ul style="list-style-type: none"> • 10 years • 7 years in Road Works • 4 years' experience in Road projects as Environment Specialist/ Bioengineer • Experience in Donor funded infrastructure projects
(iii) Language	Communicate fluently in English Language

14. Wildlife Expert (Experience of the last 10 years will only be considered)

(i) Educational Qualification	
<ul style="list-style-type: none"> • Preferred • Basic 	<ul style="list-style-type: none"> • Master's degree in Wildlife Biology or Biodiversity Conservation or related fields • Graduate in Bio-diversity Engineering or Environment related field
(ii) Experience	

<ul style="list-style-type: none"> • Total Experience • Experience in Related Field • Experience in the Proposed Field of Expertise 	<ul style="list-style-type: none"> • 10 years • 7 years in Road Works • 5 years experience in working on interactions between wildlife and linear infrastructure projects or wildlife conservation activities within large infrastructure projects • Experience in Donor funded infrastructure projects
(iii) Language	Communicate fluently in English Language

15. Social Resettlement Specialist (Experience of the last 10 years will only be considered)

(i) Educational Qualification	
<ul style="list-style-type: none"> • Preferred • Basic 	<ul style="list-style-type: none"> • Masters in Social Science/ Sociology • Graduate in Social Science
(ii) Experience	
<ul style="list-style-type: none"> • Total Experience • Experience in Related Field • Experience in the Proposed Field of Expertise 	<ul style="list-style-type: none"> • 10 years • 7 years in Road Works • 4 years' experience in Road Projects as Social Development Specialist/ Resettlement Specialist • Experience in Donor funded infrastructure projects
(iii) Language	Communicate fluently in English Language

16. Gender (HIV/AIDS, Livelihood) Specialist (Experience of the last 10 years will only be considered)

(i) Educational Qualification	
<ul style="list-style-type: none"> • Preferred • Basic 	<ul style="list-style-type: none"> • Masters in Social Science/ Sociology • Graduate in Social Science
(ii) Experience	
<ul style="list-style-type: none"> • Total Experience • Experience in Related Field • Experience in the Proposed Field of Expertise 	<ul style="list-style-type: none"> • 10 years • 7 years in Road Works • 4 years' experience in Road Projects as Gender Specialist/ HIV/AIDS Specialist • Experience in Donor funded infrastructure projects
(iii) Language	Communicate fluently in English Language

NATIONAL NON-KEY EXPERTS

17. Assistant Resident Engineer (Experience of the last 8 years will only be considered)

(i) Educational Qualification	
<ul style="list-style-type: none"> • Preferred • Basic 	<ul style="list-style-type: none"> • Masters in Transport Engineering/ Highway Engineering/ Bridge Engineering/ Construction Management • Graduate in Civil Engineering

(ii) Experience	
<ul style="list-style-type: none"> • Total Experience • Experience in Related Field • Experience in the Proposed Field of Expertise 	<ul style="list-style-type: none"> • 8 years • 4 years in Road Works • 2 years as an Assistant Resident Engineer or 4 Years as SLOW (after completion of Graduation in Civil Engineering) in Road Projects. • Experience in Donor funded infrastructure projects.
(iii) Language	Communicate fluently in English Language

18. Social Development Officer (Experience of the last 8 years will only be considered)

(i) Educational Qualification	
<ul style="list-style-type: none"> • Preferred • Basic 	<ul style="list-style-type: none"> • Masters in Social Science/ Sociology or related field. • Graduate in Social Science
(ii) Experience	
<ul style="list-style-type: none"> • Total Experience • Experience in Related Field • Experience in the Proposed Field of Expertise 	<ul style="list-style-type: none"> • 5 years • 2 years in Road Works • 2 years in Resettlement activities. • Experience in Donor funded infrastructure projects.
(iii) Language	Communicate fluently in English Language

19. Office Engineer/CAD Engineer (Experience of the last 8 years will only be considered)

(i) Educational Qualification	
<ul style="list-style-type: none"> • Preferred • Basic 	<ul style="list-style-type: none"> • Post Graduate Degree/Diploma in Civil Engineering/ Transport Engineering/ Highway Engineering/ Construction Management • Graduate in Civil Engineering
(ii) Experience	
<ul style="list-style-type: none"> • Total Experience • Experience in Related Field • Experience in the Proposed Field of Expertise 	<ul style="list-style-type: none"> • 8 years • 4 years in Road Works • 2 years as an Assistant Resident Engineer/Office Engineer or 4 Years as SLOW (after completion of Graduation in Civil Engineering) in Road Projects. Knowledge of CAD is desirable • Experience in Donor funded infrastructure projects.
(iii) Language	Communicate fluently in English Language

20. Senior Inspector of Works (Experience of the last 8 years will only be considered)

(i) Educational Qualification	
<ul style="list-style-type: none"> • Preferred 	<ul style="list-style-type: none"> • Bachelor's degree in civil engineering or its related fields/ Highway Engineering/ Construction

<ul style="list-style-type: none"> • Basic 	Management <ul style="list-style-type: none"> • Diploma in civil engineering with 5 years experience in road works
(ii) Language	Communicate fluently in English Language

21. Laboratory Technician (Experience of the last 8 years will only be considered)

(i) Educational Qualification	
<ul style="list-style-type: none"> • Preferred • Basic 	<ul style="list-style-type: none"> • Post Diploma Advance level certificate course in testing civil Engineering Materials. • Diploma in Civil Engineering with 5 years experience
(ii) Language	Communicate fluently in English Language

G. Reporting Requirements

38. All original drawing, work sheets, field notes, computer program, reports, and other documents relating to the study shall become the property of the Department of Roads. The Consultant shall submit the following reports in the format approved by the client.

i. Inception Report

39. The Consultant shall submit Inception Report (10 copies to DOR Project Directorate and 2 copies to ADB) within one month of the commencement of services. The Report will include the consultants' detailed work program (including methodology and details of special investigation proposed and any revision needed in the original proposal and the design criteria).

ii. Construction Supervision Stage Reports

1. Progress Reports

40. The Consultants shall submit progress reports every month and detailed quarterly reports on the progress of work (10 copies to DOR and 2 copies to ADB) with electronic copies. Monthly reports shall be submitted within seventh day of successive month and quarterly report within 10th day of the next month after the end of the quarter. The first report will be submitted on the 10th day of the month following the submission of the Inception Report. The reports will summarize the work performed during the reporting period, identifying the causes of significant delays and indication the corrective actions taken or recommended.

41. Monthly reports, and other reports as applicable, are to include schedules of contract payments and variation order, extension of time, graphical representations of progress against program, based on the approved contract schedules, charts of physical progress on major items, relevant photographs, Material at site, Equipment at site, Manpower at site, daily diaries and details of impediments to the works and proposals for overcoming those problems and also list of imported items, its utilization and use.

2. Semi-Annual Reports

42. The Consultants shall submit semiannual reports on Social, Resettlement and Environmental implementation every six calendar months (10 copies to DOR and 2 copies to ADB) with electronic copies in a format acceptable to the Client. These reports shall be submitted within 10th day of the next month after the end of the period. The reports will summarize the work performed during the reporting period, identifying corrective actions taken or recommended.

3. As Built Drawings

43. The Consultants will approve the as-built drawings submitted by the civil work contractors and transmit item to the government one set of as built drawings for all civil works in digital form (AutoCAD compatible files) and six certified hard copies thereof in 1:500 scale within time limit specified in the work contract.

4. Project Completion Report

44. Upon completion of the project, the consultants shall submit 13 copies (10 copies to DoR and 3 copies to ADB) of comprehensive final completion report of the construction contract package after completion of the work. The report shall incorporate summary of the method of construction, the construction supervision performed, as built construction drawing, problems encountered and solutions undertaken thereon and recommendations for future projects of similar nature to be undertaken by the Client.

45. The consultant shall submit the self-appraisal report within the prescribed time summarizing the following details:

- (i) Details of Personnel including substitution made during the assignment
- (ii) Details of variation orders issued
- (iii) Details of extension of time granted to the Contractor
- (iv) Details of Quality Assurance System
- (v) Quality observed at site by the consultant
- (vi) Details of claims
- (vii) Special preventive measures for maintenance suggested by the consultant

iii. Roughness Survey Report

46. The roughness surveys shall be carried out at the completion of pavement construction as well as at the end of the defect liability period. The consultant is required to submit hard copies along with electronic copy with the findings along with data in this report.

iv. Documents & Manuals Required

47. The Consultants shall prepare and submit within two months of commencement of service, the following documents to be approved by the client for efficient contract administration and construction supervision. After approval of the documents, bound copies shall be distributed to DOR personnel and all site staff for implementation.

- (i) Consultant Implementation Manual
- (ii) Contract Administration/Construction Manual

- (iii) Quality Control & Assurance Manual
- (iv) Laboratory Manual
- (v) Environmental Monitoring Checklist

48. All the reports in addition to electronic copies shall be submitted to the Project Director, DOR, Project Directorate (ADB), Bishalnagar, Kathmandu (Nepal).

H. Client's Input and Counterpart Personnel

i. To be Provided by the Consultant

49. The Consultants should provide the facilities and requirements for construction supervision and maintenance during PBM period themselves. These will include support staff and office/accommodation facilities, office equipment and supplies, furniture, logistics, vehicles, and communications for TL office and respective site offices. The specification of the facilities and vehicles are set out in annexes 1 and 2. The Consultant will set out these requirements in the technical proposal and provide estimated costs in the financial proposal.

ii. To be Provided through the Civil Works Contract

50. During supervision of construction, survey equipment, Lab equipment and Laboratory will be provided to the Consultant through the civil works contracts. However, the Consultant will list in the technical proposal, and include in the financial proposal, all facilities and equipment, and support staff that it considers necessary to carry out the services. After review and negotiation, the agreed items will be procured and/or provided.

51. The government will provide the Consultants with all available studies and reports including feasibility study reports, ADB appraisal report, and results of previous vehicular traffic count and maps of the area as available at their disposal. In particular, the output reports from the Transport Project Preparatory Facility will be provided to the Consultant. Any other studies or reports needed shall be obtained by the Consultants themselves.

52. The government will permit temporary importation into Nepal for the duration of the projects and subsequent exportation of equipment and materials, required but not available in the country for the proposed execution of the services, such items shall be exempted from levy of import duties or taxes as per prevailing rules and regulations of Government of Nepal.

ANNEX 1: OFFICES AND ACCOMMODATION

I. Provision of Offices and Accommodation for the Consultant

1. The facilities shall be subject to the approval of the Client.

A. General Requirements

2. The Consultant shall acquire/rent/lease/buy and provide office space for Head Office at Butwal/Narayanghat and at sites where required. The Consultant shall erect prefabricated buildings as per requirement stated below. The Consultant shall provide furniture, fittings, equipment and materials as required in order to provide fully functioning and usable facilities and to provide the consultant's staff with the necessary resources for the administration, supervision, measurement and approval of the works.

3. Offices shall be of two types designated as Office Type-1 and Office Type-2. Accommodation shall be for TL/CRE and other international Experts designated as Accommodation Type-1.

4. The complete office facilities shall include the provision of the land, covered parking facilities for vehicles, erecting of the buildings and all other necessary appurtenance such as drainage systems, fences, utilities, etc.

5. After providing the offices and equipment the consultant shall maintain them for the duration of the Service.

B. Services

6. The Consultant shall arrange, where possible, for the connection of water mains, drainage and sewerage and mains electricity to all offices and accommodations and shall be functional all the time. In circumstances where location of offices makes such connections impracticable, the consultant shall provide and operate generators to supply adequate power, pumps to supply water from wells or storage tanks with regular deliveries of potable water and sewage disposal facilities which conform in full to the requirements for sewage disposal facilities. A standby generator with fuel of appropriate capacity shall be provided to each office and accommodation to use during load shedding and power failure.

7. Telephone services including at least two direct lines and two mobile phones shall be provided for Office Type-1 and at least one direct line and two mobile phones for each Office Type-2.

C. Rented Premises

8. In the case of rented accommodation the requirements of this Clause will not be enforced in detail; however, the basic numbers and sizes of rooms specified will need to be substantially satisfied, the total floor area required herein is the minimum and the required equipment, electricity, sanitary and water supply will remain unchanged. Before rented accommodation is approved, the Client must be satisfied that the location is suitable, that the property proposed shall be available for the required duration and that the layout of the property is functionally equivalent to the requirements.

D. Office and Accommodation Buildings

9. The office and accommodation buildings shall provide the rooms described below as a minimum. The room requirements for the office is shown in Table A.1 below. Similarly, requirements for Accommodation Type 1 is shown in Table A.2.

Table A.1: Office Room Requirements

Room Requirements	Office Type-1		Office Type-2	
	No. of Rooms	Area	No. of Rooms	Area
Chief Resident Consultant/Team Leader	1	Total floor area shall not be less than 300sqm	0	Total floor area shall not be less than 200sqm
Chief Quality Control Engineer	1		0	
Intermittent Professionals	2		1	
Resident Engineer	1		1	
Material Engineer	1		1	
Assistant Resident Engineer	1		1	
SLOW	1		1	
Office Manager/Accountant	1		1	
Office Secretary/Administrator	1		1	
Conference Room	1		1	
Sr. Materials and Lab technician	1		1	
Toilet	2		2	
Store Room	1		1	
Kitchen	1		1	
Covered Parking Space / Vehicles	6 Vehicles		3 Vehicles	

Table A.2: Accommodation Type-1 for the Consultant

Description	No. Rooms Required	Area
Living/ Dining Room	1	Total floor area shall not be less than 120sqm
Office Room	1	
Bed Room	2	
Attached Toilets/ Bathroom	2	
Kitchen	1	
Pantry	1	
Servant's Accommodation	1	
Servant's Toilet	1	

10. All rooms, including the conference room and the kitchen shall be provided with adequate lighting and power outlets.

E. Furnishings and Equipment

11. The fittings, furnishings and equipment to be provided in offices and accommodations shall be sufficient to run the project smoothly and shall be of good materials and standard acceptable to the employer. The furniture and equipment to be supplied and installed in the

offices shall be new, and of acceptable quality. The furniture may be steel, aluminium, wood or combination of these. The Consultant should forward details of the items he intends to supply and obtain prior approval from the Client.

12. In the event the Consultant fails to provide acceptable quality and quantity equipment item, the payment for that period shall not be made.

II. Office Maintenance, Accommodation and Provision of Supplies

A. General Requirements

13. The Consultant shall maintain in good decorative and working order all the buildings and the contents thereof installed under the Service. The Consultant shall be responsible for supplying all power, water and telephone services to all the offices and accommodations. A standby generator (minimum 15 KVA) or equivalent equipment of appropriate capacity is required for each office and accommodation to have continuous supply of power during load shedding and power failure. The Maintenance of the Consultant's offices and accommodation shall include daily cleaning and provision of toilet materials.

14. The Consultant shall provide adequate security to guard and secure the buildings 24 hours per day basis. The Consultant shall do the same for the Project Directorate Office during the contract period.

15. A wireless internet facility shall be provided at every office in order to facilitate the transmission of project data and information.

16. Each room shall be fitted with adequate light fittings, ceiling fans with regulators, and two electric 5A outlets with ground connection. The kitchens shall have at least two 5A and one 15A electric outlets.

17. The office shall have two outside telephone lines; one shall be provided for the exclusive use of the Chief Officer in charge of the office, and the other line will be provided with necessary extensions for use in the various offices.

18. The Consultant shall arrange for the offices to be connected with each other and the Consultant's head office by an intercommunications telephone system in order to facilitate communications between the Consultant's staff.

19. The Consultant shall supply and keep replenished all consumable items.

ANNEX 2: VEHICLES FOR THE ENGINEER

1. The Consultant shall provide themselves all necessary vehicles for implementation of the service including driver, fuel, maintenance, etc. The type of vehicles the Consultant is required to provide for their use shall be as shown below:

SN	Vehicle Type	Minimum number required	Remarks
1	Vehicle Type-1	3	
2	Vehicle Type-2	15	
3	Vehicle Type-3	24	

2. The Consultant may propose additional vehicles, if necessary, in their financial proposal.

A. Vehicle Type 1

3. New, or nearly new, five- or six-door station wagon (including one/two rear doors) with a diesel engine of at least 2.2 litre capacity, four wheel drive, high and low ratio gear box with differential lock, a minimum ground clearance (unladen) of 180mm, air conditioner, cloth seats, seat belts, locking fuel cap, spare wheel, tool kit, tow rope, jump leads, fire extinguisher and first aid kit.

B. Vehicle Type 2

4. New, or nearly new, "double cab" pick-up with a diesel engine of at least 2.0 litre capacity, four wheel drive, a minimum ground clearance (unladen) of 180mm, air conditioner, cloth seats, seat belts, locking fuel cap, spare wheel, tool kit, tow rope, jump leads, fire extinguisher and first aid kit.

C. Vehicle Type 3 (Motor cycle)

5. New Off Road motor cycle with a four-stroke engine of at least 150 c.c. equipped with panniers and spare tool kit. Included shall be a motor cycle safety helmet meeting the Nepal Road Safety specifications.

6. "Nearly new" means less than 5 years old and with less than 50,000 km travelled and in general good condition.

7. All vehicles shall be of current manufacture and shall have a minimum guarantee/warranty period of one year.

8. Payment shall be made only to those vehicles which conform the specification.

**OUTLINE TERMS OF REFERENCE FOR PROJECT MANAGEMENT CONSULTANTS
(INDIVIDUAL)**

**CONTRACT MANAGEMENT SPECIALIST
(INTERNATIONAL AND NATIONAL)**

A. Objective

1. The main objective of the consulting services is to assist Project Directorate (ADB) in managing, overseeing and monitoring the implementation of SASEC Roads Improvement Project (SRIP) and develop its project management capability. It is also to assist in the development of the Project Site Office's capacity through institutional development and capacity building, as well as developing the project management skills.

2. Components include:

- (i) Assist the PD (ADB) to manage and oversee the SRIP project;
- (ii) Assist the Project Managers to manage and oversee their contract-specific programs and progress;
- (iii) Assist the PD (ADB) and Project Managers in implementing the ICB Contracts (Civil Works and Consulting service); and
- (iv) Project monitoring and evaluation.

B. Scope of Works

3. The Consultants shall responsible for but not limited to:

- (i) Oversee and manage the project components on behalf of PD (ADB);
- (ii) Work closely with PD (ADB) in executing the management role;
- (iii) Monitor and report on progress (physical and financial);
- (iv) Monitor and check compliance of the job carried out by the construction supervision consultants (CSC) as per the TOR of CSC
- (v) Review and approve all project documentation produced by the CSC, prior to their submission to the ADB and/or use on the project;
- (vi) Assist PD (ADB) in implementation of consultancy service and civil works contracts as per respective contract documents;
- (vii) Assist in reviewing and checking assessment of variations, time extensions, rate determination and other determinations done by the CSC;
- (viii) Assist in dispute resolution;
- (ix) Review and update the following CSC manuals and reports;
 - a) Consultant Implementation Manual
 - b) Contract Administration/Construction Manual
 - c) Quality Control & assurance manual
 - d) Laboratory Manual
 - e) Environmental Monitoring Checklist
 - f) PPMS
- (x) Review of the CSC's proactivity, control and approval procedures;
- (xi) Review adequacy of the materials laboratory with respect to specification and international practice;
- (xii) Review of the CSC's site communications;
- (xiii) Review of the CSC's knowledge of the contract;

- (xiv) Review of the CSC's supervision quality and the quality of work completed;
- (xv) Monitor whether the CSC is ensuring contractor's appropriate methods of working;
- (xvi) Monitor whether the CSC is ensuring that contractor's materials are compliant with specifications;
- (xvii) Monitor whether the CSC is recording contractor's site organization, site management and daily diaries;
- (xviii) Review and monitor whether the CSC is ensuring contractor's quality assurance procedure, work quality and detail of the construction programme;
- (xix) Monitor whether the CSC is ensuring contractor's site safety;
- (xx) Check whether the works are constructed as per design, drawings, and specification and assess the construction quality of the works;
- (xxi) Analyze the effectiveness of procedures and processes of the sub-projects implementation from the initial phase;
- (xxii) Identify the problems faced by each stakeholder in fulfilling their roles in the implementation of the sub-project;
- (xxiii) Assess whether record keeping of different construction materials, labours used, and equipment, etc., are maintained;
- (xxiv) Check whether drawings are prepared as per built sub-projects with details of all structures;
- (xxv) Based on the findings of the study and observations made in the field, recommend ways on how to improve the performance of each of the parties involved in the implementation of the programs;
- (xxvi) Train PIU staff in project management, contract supervision, project coordination and auditing; and
- (xxvii) Assist in internal and external audit and its compliance.

C. Qualification: International

- a) Basic: Bachelor Degree in Civil Engineering
- b) Preferably Post Graduate degree in Highway/Transportation/Structure Engineering/ Construction Management or equivalent with Membership of Institution

Essential Experience :

- a) Total Professional Experience 20 Years minimum
- b) Experience in Highway Projects He/She must have worked as Contract Specialist in contract administration for at least 6 years on large highway or road construction contracts
- c) Project Experience working on Overseas Highway/Bridge Construction Projects (at least 2 projects costing over US\$ 30 million each) under FIDIC conditions. Must have experience in assessment of extension of time and cost claims, and other contractual claims and disputes under FIDIC conditions

D. Qualification: National

- a) Basic: Bachelor Degree in Civil Engineering

b) Preferably Post Graduate degree in Highway/Transportation/Structure Engineering/ Construction Management or equivalent with Membership of Institution

Essential Experience :

- a) Total Professional Experience 10 Years minimum
- b) Experience in Highway Projects He/She must have worked as Contract Specialist in contract administration for at least 3 years on highway or road construction contracts
- c) Project Experience working on Overseas Highway/Bridge Construction Projects (at least 1 project costing over US\$ 10 million each) under FIDIC conditions. Must have experience in assessment of extension of time and cost claims, and other contractual claims and disputes under FIDIC conditions

E. Person month inputs:

International	20 person months
National	60 person months

EXTERNAL MONITOR ENVIRONMENT SAFEGUARD (INTERNATIONAL)

A. Objective

1. The main objective of the assignment is to conduct third party monitoring of implementation of the environment safeguard requirements under the Project.

B. Scope of Work

2. Among other activities, the consultant will be engaged under the Project to conduct third party monitoring on mitigation and monitoring activities on the:

- (i) Physical environmental components:
 - Monitor the implementation of mitigation measures and monitoring activities for physical environmental components (air, water, noise, and soil) by the respective contractors and supervision consultants.
 - Provide technical guidance and feedback to respective contractor and supervision consultants.

- (ii) Ecological environmental components:
 - Review the revised Biodiversity Conservation Plan and Compensatory Afforestation Program and monitor its implementation.
 - Monitor the implementation of mitigation and enhancement measures and monitoring activities for ecological environmental components (flora, fauna, protected areas, endangered species, etc.) by the respective contractors and supervision consultants.
 - Provide technical guidance and feedback to respective contractor and supervision consultants.

3. **Report.** Semi-annual monitoring reports on findings of third party monitoring conducted for physical and ecological environment during construction stage for the Narayanghat–Butwal Road.

C. Required Expertise

4. **Key Qualifications:** Minimum of a Master's Degree in Environmental management, or Ecosystem Management and related subjects.

5. **Experience:** Minimum of 15 years of working on environmental management of transport infrastructure projects involving biodiversity issues and/or protected areas.

6. **Person month inputs:** 4 (1 month per year in biannual basis during project construction).

FINANCIAL EXPERT (NATIONAL)

A. Objective

1. The objective of the services is to assist Project Directorate in (i) all financial matters referred; (ii) preparation of project accounts, withdrawal applications (WA) and disbursements; and (iii) to assist in financial auditing. Special attention should be paid to the following:

- (a) All project funds have been used in accordance with the conditions of the relevant financing agreement, with due attention to economy and efficiency, and only for the purposes for which the financing was provided.
- (b) Counterpart funds have been provided and used in accordance with the relevant financing agreement, with due attention to economy and efficiency, and only for the purposes for which they were provided;
- (c) All necessary supporting documents, records, and accounts have been kept in respect of all project ventures, including expenditures reported via statement of expenditures (SOE). Clear linkages should exist between the books of account and reports presented to the Bank.
- (d) The project accounts have been prepared in accordance with consistently applied standards and give a true and fair view of the financial situation of the project and of resources and expenditures for the year ended on that date.

B. Detailed Scope and Reporting Requirements

2. Among other activities, the consultants will be engaged under the Project to:

- (i) Facilitate in preparing withdrawal application and reimbursement
- (ii) Facilitate in preparing and maintaining project accounts
- (iii) Assist in checking and verifying interim payment and final payment certificate
- (iv) Assist in preparing and updating disbursement projections
- (v) Assist in checking, tracking and maintaining performance securities and bank guarantees
- (vi) Assist in fulfillment of covenants
- (vii) Help in maintaining record management
- (viii) Assist in internal and external audits
- (ix) Advise on fund use as per ADB Guidelines and Government of Nepal (GoN) regulations
- (x) Undertake regular visits to assess the adherence of the established procedures at project office level and to ensure physical existence of project assets and results.
- (xi) Review eligibility and appropriateness of the project expenditures incurred at the project office level as well as to provide basic technical services (as required) for the proper recording and maintenance of project accounts at that level.
- (xii) Review procurement transactions at project office level to ensure procurement transactions have been conducted in accordance with the applicable procedures,

and that the delivery of goods, works and services are in accordance with contract quantities and quality.

- (xiii) Review that all necessary supporting documents, records, and accounts are being kept by the project office level in respect of all project expenditures.
- (xiv) Coordinate with DOR for integration of project accounting and reporting to DOR financial management information systems.
- (xv) Assist in other financial matters.

3. **General.** The financial expert will be given access to all contract documents, correspondence, and any other information associated with the project and deemed necessary by the expert. The financial expert should be familiar with the Bank's Disbursement Handbook and GoN rules and regulations.

4. **Report.** The financial expert will submit a monthly report to the project director describing his tasks performed, including findings and suggested remedial measures to improve the financial system, internal checks and control. The financial expert should work closely with the project management team, to support and ensure that the project's operations are carried out in accordance with the relevant agreements, and are transparent, fair, cost efficient, and effective.

C. Required Expertise

5. The candidate must have more than 5 years' experience in the relevant field, with a professional qualification from a recognized institute or post graduate degree in commerce with financial background, and professional certification as certified public accountant or chartered accountant.

6. **Person month inputs:** 60 person months

TRANSPORT ANALYST (NATIONAL)

A. Objective

1. The objective of the services is to assist Project Directorate in data collection and analysis for implementing the project.

B. Detailed Scope and Reporting Requirements

2. Among other activities, the consultants will be engaged under the project to:
 - (i) Review available data and economic analysis of the project roads prepared by PPC-2 consultant to ensure the quality of the consultant's study.
 - (ii) Assess assumptions used for economic analysis; consider possible design alternatives; and update traffic data, traffic forecasting, and cost estimates, as required. Prepare economic evaluation of the proposed projects following ADB's Guidelines for the Economic Analysis of Projects covering the key areas of economic analysis indicated in ADB's Key Areas of Economic Analysis of Projects—An Overview.
 - (iii) Develop a project impact monitoring framework and carry out a socioeconomic baseline survey for project road.
3. **Report.** The transport analyst will submit a monthly report to the project director describing his tasks performed, including findings and suggested remedial measures for improvement.

C. Required Expertise

4. The consultant should have at least 3 years of relevant experience in transport sector covering data collection, data processing, feasibility study, engineering design, and economic analysis. He/she should be proficient in using MS Office packages, HDM-4, and economic analysis application. Preference will be for the candidate with experience of working on projects financed by international development agencies.
5. **Person month inputs:** 4 person months