



PAPUA NEW GUINEA PUBLIC SERVICE

JOB DESCRIPTION



1. IDENTIFICATION

AGENCY: Works & Highways	SYS. POSN. NO:	REF. NO: 60ESHE09	
WING: Network Planning, Design & Standards	DESIGNATION/CLASSIFICATION: Senior Engineer - Bridges Design		Grade 13
DIVISION: Engineering Services & Standards	LOCAL DESIGNATION: Senior Engineer - Bridges Design		
BRANCH: Highway Engineering	REPORTING TO: Supervising Engineer - Bridges Design Grade 14	SYS. POS. NO:	REF. NO: 60ESHE06
SECTION: Technical	LOCATION: Headquarter - Boroko		

HISTORY OF POSITION

FILE REF.	DATE OF VARIATION	DETAILS
111-60-A00	10/12/2021	Re-no, Re-class, Re-design

2. PURPOSE

Assist to develop and implement a safe and effective integrated bridge network programs on all national, provincial and district road network programmes funded through the National Governments Infrastructural Development Programmes in Papua New Guinea.

3. DIMENSIONS

- 3.1 Assist Supervising & Principal Engineers (Bridges) on engineering and technical issues of bridges relating to Feasibility Studies, Investigations, Scoping, Design, Documentation and implementation of the National Governments Infrastructural Development Programmes on Road Transport (Roads & Bridges) Network in Papua New Guinea.
- 3.2 Assist Supervising & Principal Engineers (Bridges) and Assistant Secretary (Roads & Bridges) to advise DoW field staff in the provinces on bridge design, documentation and other related issues of the bridge projects involved by the Design Branch.
- 3.3 Assist Supervising & Principal Engineers (Bridges) to manage existing hardware equipment including existing and new bridge design software's, other stationary materials/supplies for improved performance and implementation of the National Road Transport Network in Papua New Guinea.

4. PRINCIPLE ACCOUNTABILITIES

- 4.1 Accountable to Assistant Secretary (R&B) through Supervising & Principal Engineers (Bridge Section) on bridge design programmes involved are implemented on all sixteen (16) priority national roads identified under the Medium-Term Transport Development Plans (MTTDP) and National Road Network Strategy (NRNS) programmes including other sub-national roads within the country.
- 4.2 Through Supervising & Principal Engineers (Bridge Section) and Assistant Secretary (R&B) to ensure that all bridge design guidelines and policy requirements are complied, when these bridge projects are designed and constructed. This includes the existing bridges that are open to public use throughout the country.
- 4.3 Through Supervising & Principal Engineers (Bridge Section) and Assistant Secretary (HEB) to ensure that all bridge approaches and including cross drainage culvert crossings safety guard rails are installed/replaced with the approved "Bull Nose" end terminal through all sixteen (16) priority national roads and other sub-national roads within the country.

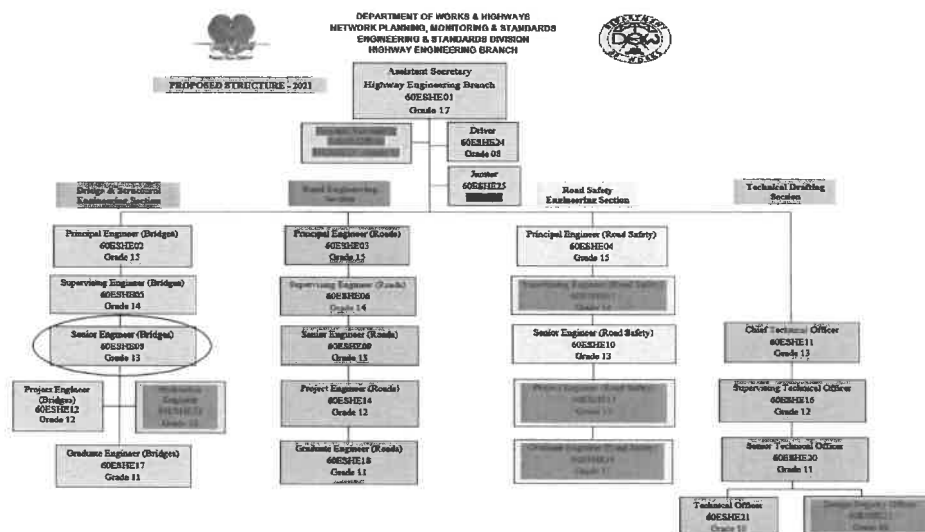
4.4 Through Supervising & Principal Engineers (Bridge Section) and Assistant Secretary (HEB) assist to arrange bridge design software's and other related training requirements for implementation of safer bridge projects for all road users within the country.

5. MAJOR DUTIES

- 5.1 Team leader to lead and oversee a design team of engineers and technical officers in bridge design & documentation functions & tasks on various bridge projects involved by the design branch in line with the MTTDP's and NRNS's programmes.
- 5.2 Assist to prepare major and minor consultancy design briefs for the engagement of private consulting engineers as directed by Supervising and Principal Engineers (Bridge Section). Assist to supervise and monitor the consultant's progressive status as stated in the Terms of Reference (TOR).
- 5.3 Team leader to ensure that the technical accuracy and design standards & specifications are complied with on the relevant bridge projects involved by the design branch.
- 5.4 Team leader to lead and prepare design reports of the relevant bridge projects involved by the design branch. These includes those bridge projects contracted out to the consultants to complete on behalf of the Design Branch, Division and DoW as stated in the TOR on design stages as required.
- 5.5 Assist to participate in the management of the branch by providing relevant information and advice to Assistant Secretary (HEB) through Supervising and Principal Engineers (Bridge Section) when required.
- 5.6 Assist Supervising and Principal Engineers (Bridge Section) through Assistant Secretary (HEB) to liaise with other line departments and organizations on relevant bridge design specifications and standards where applicable.
- 5.7 Assist with training and development of staff through Human Resources Development Branch (HRDB) through Supervising and Principal Engineers (Bridge Section) and Assistant Secretary (HEB).
- 5.8 Other relevant duties and tasks as directed by the Assistant Secretary (HEB) through Principal and Supervising Engineer (Bridge Section)

6. NATURE AND SCOPE

This position is within the management level of the Design Branch and reports directly to the Activity Head (Assistant Secretary – Highway Engineering Branch) as depicted in the structural framework of the branch.



6.1 WORKING RELATIONSHIP

(a) Internal

Reporting through Supervising & Principal Engineers (Bridge Section) to Assistant Secretary (Highway Engineering Branch) and liaising with other Branches, Divisions within Department of Works Headquarters and Provincial Establishments.

(b) External

Through Supervising and Principal Engineers (Bridge Section) assist to coordinate and supervise the engineering consultants engaged by Highway Engineering Branch, Engineering & Standards Division on behalf of DoW on various bridge design projects funded under the National Government of PNG.

6.2 WORK ENVIRONMENT

Assist to implement all bridge engineering, technical design specifications and standards on behalf of Department of Works (DoW) for the National Government of Papua New Guinea on Road Transport (Roads & Bridges) network for a safe and easy accessibility for the people of Papua New Guinea.

7. CONSTRAINTS FRAMEWORK AND BOUNDARIES

▪ Rules/procedures

- *The National Government through Department of Transport's National Road Network Strategy (NRNS) Policy Guidelines for Road Transport Networks for upgrading and rehabilitation works has identified the sixteen (16) priority road network sections including the missing links in the Medium-Term Transport Development Programmes (MTTDP's).*
- *Department of Works (DoW) shall be confined and limited to meet these policy guidelines as stated in the MTTDP and NRNS as a result when implementing these development projects.*
- *All engineering designs, documentation and Road Safety requirements shall be focused on these road networks within the country subject to annual development budget funding as a result of these policy guidelines.*

▪ Decision

- *The Government through Department of Transport has the mandated role and obligation to decide and include other relevant sections of road network throughout the country into MTTDP, NRNS and Sub-National Roads for implementing that will open accessibility to the rural population for economic and social developments.*
- *This decision will not only alleviate poverty but also improve living conditions of the rural population through delivery of services such as health, education and other social improvements as well as agricultural developments.*

▪ Recommendations

- *It is recommended that other policy guidelines be developed to include other missing sections of road network and funding to be made available through the Department of National Planning and Monitoring (DNP&M).*

8. CHALLENGES

- *The current challenge with respect to this position was the recruitment of experience bridge design engineer on this position to support/perform the specific duties and tasks involved in order to produce the required outcomes and meet deadlines on the various bridge projects involved by the design branch.*

- *Various bridge projects out-sourced to the consultants are done without proper design briefs and terms of references (TOR) to guide these consultants to comply with DoW approved design standards and specifications.*
- *The designs in draft, preliminary and final design phases can be checked thoroughly at various stages of the design phases to ensure that TOR as well as approved design standards and specifications are complied with before approval of the design.*
- *The design branch has been unable to attract and employ experienced and qualified engineers for the last three (3) decades due to low salary and employment conditions which are governed by the Governments Public Service Remuneration conditions.*

9. QUALIFICATIONS, EXPERIENCES AND SKILLS

(a) Qualifications

- *Appropriate university degree in Civil engineering studies from a recognized university.*
- *Registered member of Institute of Engineers – Papua New Guinea (IEPNG).*

(b) Knowledge

- *Significant experience in design and documentation of variety of bridge projects ranging from rural to urban applications.*
- *Significant knowledge on various types of design software's used for bridge engineering applications.*
- *Sound knowledge on types of bridge construction standards/specifications to comply with the approved DoW design & construction standards.*

(c) Skills

- *Significant experience in various bridge design concepts and practices from Rural to Urban setting requirements to ensure the approved DoW bridge design guidelines and policies are complied with when implementing these bridge programmes.*

(d) Work Experience

- *Minimum experience of six (6) years in bridge engineering applications on design, documentation and construction phases as well as safety requirements.*